



The Transformation of Risk-Based Internal Auditing in Strengthening Enterprise Risk Management Effectiveness

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Abstract

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This study aims to analyze the role and application of Risk-Based Internal Auditing in strengthening the effectiveness of Enterprise Risk Management based on the latest literature review in the last five years. The research method used is a literature study by examining fifteen relevant scientific articles indexed by Google Scholar. The results of the analysis show that Risk-Based Internal Auditing functions as a modern audit approach that places risk as the center of supervision, while supporting the achievement of organizational strategic goals. The integration of Risk-Based Internal Auditing and Enterprise Risk Management creates synergies that increase the effectiveness of internal controls, transparency, and governance accountability. In addition, the development of digital technology strengthens the implementation of Risk-Based Internal Auditing through the use of data analytics and artificial intelligence. This study confirms that the success of Risk-Based Internal Auditing is highly dependent on auditor competence, management support, and a strong risk culture to realize sustainable and value-added governance for the organization.



1. Introduction

In the past decade, the internal audit function has undergone a fundamental transformation from a traditional compliance-focused role to a risk-oriented strategic role. Changes in the increasingly dynamic business environment, complexity of organizational operations, and increased stakeholder expectations demand internal audits to contribute more to the achievement of organizational strategic goals (Roussy et al., 2020). This transformation gave birth to a new paradigm known as Risk-Based Internal Auditing (RBIA), which is an audit approach that integrates Enterprise Risk Management (ERM) principles in the audit planning and implementation process. The RBIA focuses on key risk areas that can hinder the achievement of organizational goals, thereby generating added value through consultative and preventive roles (Lois et al., 2021).

The concept of RBIA evolved in tandem with the adoption of the ERM framework put forward by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in 2017, which emphasizes the integration of risk management with organizational strategy and performance. This framework places risk as a strategic component that not only needs to be controlled, but also leveraged to create opportunities. In this context, the role of internal audit has expanded from just a supervisory function to a strategic management partner that helps ensure the effectiveness of internal control systems and governance processes (Griffith, 2020). Internal auditors are now expected to provide assurance and consultation on significant risks, as well as support organizations in building control systems that are adaptive to changing business environments.

The RBIA not only increases the relevance of the internal audit function, but also strengthens organizational accountability through increased risk management effectiveness (Onay, 2020). This approach requires auditors to understand the business context in depth, assess the level of maturity of risk management, and identify the relationship between strategic, operational, and compliance risks. In practice, RBIA uses the risk register and risk & audit universe as the basis for the preparation of audit plans, so that the implementation of audits becomes more focused, directed, and efficient (Erlina et al., 2020).

Furthermore, RBIA plays an important role in strengthening corporate governance by ensuring a balance between the risks taken and the organization's ability to manage them. Roussy and Perron (2018) explain that the effectiveness of internal audits is becoming increasingly dependent on the auditor's ability to thoroughly assess risks and provide recommendations based on comprehensive risk analysis. In addition, the use of digital technology and data analytics enriches the RBIA approach in identifying more complex risk patterns and accelerating the decision-making process (PwC, 2020).

However, the implementation of RBIA also faces a number of challenges, especially related to the competence of internal auditors, management support, and the integration of risk management systems at all levels of the organization (Mustafa & Al-Nimer, 2018). The organization's readiness to implement ERM consistently is a key factor in RBIA's success. Organizations that have a high level of risk maturity are more likely to adopt a risk-based audit approach effectively compared to organizations that still use traditional approaches. Therefore, it is important for

organizations to build a strong risk culture, improve internal auditor training, and strengthen coordination between audit and risk management functions. Thus, the study of RBIA and its relationship to ERM becomes relevant in the context of modern governance. The implementation of the RBIA not only serves as a supervisory tool, but also as a strategic mechanism to ensure sustainability and increased organizational value. This approach is in line with the paradigm shift in internal audit that emphasizes the proactive role in creating long-term value for organizations (Kurniawati, 2017).

2. Literature Review

2.1. Transformation of Internal Audit Functions

The role of internal audit has undergone a significant change from just an administrative audit function to a strategic partner in achieving organizational goals. In the past, the internal audit function was synonymous with compliance audit activities with policies, regulations, and financial statement validation. This paradigm is no longer adequate to face the complexity of global business, market volatility, and increasing stakeholder demands for transparency and organizational accountability. In the modern context, internal audits are required to provide value-added assurance through comprehensive risk analysis, involvement in strategic decision-making processes, and support for the achievement of the organization's long-term goals (Roussy et al., 2020).

Changes in the increasingly dynamic business environment have encouraged the emergence of a risk-based internal auditing (RBIA) approach, which is an audit

method that places risk as the basis for each stage of audit. Through this approach, internal auditors not only assess policy compliance but also identify, assess, and mitigate strategic and operational risks that may hinder the achievement of organizational goals. Fonseca et al. (2020) emphasized that the transformation is in line with the demands of modern corporate governance, which requires internal auditors to have professional autonomy, understanding across business functions, and high analytical skills. Kaveri (2021) noted that organizations that successfully implement RBIA exhibit improved audit quality, resource utilization efficiency, and consistency in risk management. Thus, the transformation of the internal audit function towards a risk-based approach reflects the organization's efforts to strengthen governance, enhance the strategic value of audits, and build a sustainable culture of risk.

2.2. Risk-Based Internal Auditing (RBIA)

RBIA is an audit methodology that prioritizes risk as the basis for planning and implementing audits. This approach helps internal auditors to direct resources to areas with the highest levels of risk that can hinder the achievement of organizational goals (Lois et al., 2021). The RBIA differs from traditional audit approaches in that it focuses on prevention, evaluation of control effectiveness, and the provision of strategic recommendations oriented towards long-term value improvement. According to El Gharbaoui and Chraibi (2021), the implementation of RBIA enables organizations to enhance the effectiveness of internal oversight and foster strong integration between audits, risk management, and governance processes.

In addition, the implementation of RBIA contributes to improving organizational efficiency through the preparation of risk registers and risk & audit universes as the basis for determining audit priorities (Erlina et al., 2020). The RBIA also strengthens the relationship between internal audit and management as it places auditors as consultative partners who assist in strategic risk mitigation. PwC (2020) asserts that technological advancements such as data analytics and artificial intelligence now allow internal auditors to identify more complex risk patterns and improve accuracy in data-driven decision-making. Thus, RBIA is an important pillar in realizing an adaptive and value-added internal control system.

2.3. Enterprise Risk Management (ERM) and Its Relationship with RBIA

Enterprise Risk Management (ERM) is a strategic framework that integrates risk management into all organizational processes, from strategic planning, operational execution, to decision-making. The COSO (2017) framework emphasizes that ERM serves to help organizations achieve their goals by identifying, assessing, responding, and monitoring risks in a systematic and sustainable manner. This approach highlights not only financial risks, but also strategic, operational, reputational, and compliance risks that can impact the sustainability of the organization. In this context, Risk-Based Internal Auditing (RBIA) serves as the main instrument to evaluate the effectiveness of ERM implementation, as both have the same orientation towards comprehensive and integrated risk management (Onay, 2020).

Abdurrahman et al. (2020) explained that the integration between ERM and RBIA creates a comprehensive supervisory mechanism, where internal audits

function to provide assurance and insight into the effectiveness of the risk control system. This synergy helps management improve operational weaknesses and adjust business strategies to acceptable levels of risk. Griffith (2020) added that the involvement of internal audits in the ERM process strengthens accountability, transparency, and consistency in the application of good governance principles. Thus, the relationship between ERM and RBIA is symbiotic. RBIA validates the effectiveness of risk management processes, while ERM provides a framework for internal audits to be more focused and directed on the most material strategic risks to the organization.

3. Methods

This study uses a literature review method approach that is qualitative and descriptive. This method was chosen because the main objective of the study is to comprehensively analyze the concept and practice of Risk-Based Internal Auditing (RBIA) in relation to Enterprise Risk Management (ERM) based on the latest academic literature published between the last five years. The literature study allows researchers to explore relevant theories, previous research results, and conceptual models to understand the transformation of the role of internal audit in supporting the effectiveness of organizational governance and risk management. This approach also serves to identify research gaps as well as current trends that can be the basis for the development of theories and practices in the field of internal audit.

The data sources used in this study come from scientific articles indexed by Google Scholar and reputable journals such as the *Managerial Auditing Journal*,

Critical Perspectives on Accounting, and Corporate Governance. A total of fifteen academic articles were selected purposively based on their relevance to the topics of RBIA, ERM, and corporate governance. Selection criteria include: (1) publication between the last five years; (2) direct linkage to the theme of risk-based auditing and corporate risk management; and (3) conceptual or empirical contributions to improving the effectiveness of internal audit functions. In addition, one of the main sources of reference used is the work of Kurniawati (2017), which provides an in-depth overview of the implementation of RBIA in the context of organizations in Indonesia.

The analysis process is carried out through three main stages, namely: identification, classification, and literature synthesis. The identification stage involves searching for articles that meet the criteria using keywords such as risk-based internal auditing, enterprise risk management, internal audit transformation, and corporate governance. The classification stage is carried out by grouping articles based on central themes, such as the transformation of internal audit functions, RBIA methodologies, and the linkage of RBIA with ERM. Furthermore, the synthesis stage is used to integrate findings from various sources resulting in a comprehensive conceptual understanding of the relationship between RBIA and improved risk management effectiveness.

This approach to literature studies is seen as appropriate because it provides a breadth of perspective in reviewing the literature across contexts and countries, as well as avoiding empirical biases that may arise from quantitative approaches. By relying on conceptual analysis sourced from previous research, this method is

expected to be able to produce an in-depth scientific mapping of the contribution of RBIA to strengthening internal control systems, good governance, and sustainable organizational value creation.

4. Results

The results of the literature analysis show that the implementation of Risk-Based Internal Auditing (RBIA) has become one of the main innovations in strengthening the governance and risk management system of modern organizations. This approach shifts the focus of internal audits from just a compliance audit to a strategic function that adds value to the organization. By putting risk as the center of attention, the RBIA helps organizations ensure that audit resources are focused on areas with the highest levels of risk and the greatest potential impact on the achievement of goals (Lois et al., 2021).

One of the key findings found in the literature is that the effectiveness of the implementation of RBIA is highly dependent on the level of maturity of the organization's risk management system. According to COSO (2017), organizations with a high level of risk maturity tend to be better prepared to integrate risk-based audits into their operational activities. In this context, ERM serves as a conceptual foundation for RBIA, as these two systems share the same principles, namely identifying, assessing, and mitigating risks that can affect the organization's strategic goals (Onay, 2020). The integration between ERM and RBIA ensures that internal audit not only serves as a supervisor, but also as a consultative partner in the strategic decision-making process.

Roussy and Perron (2018) revealed that the RBIA contributes to increasing the effectiveness of internal audits by expanding the scope of oversight towards operational, strategic, and reputational risks. This makes internal audits more adaptive to changes in the business environment and able to provide relevant recommendations to improve organizational efficiency and competitiveness. In many cases, the implementation of RBIA drives an organizational culture shift from reactive to risk-proactive, thereby strengthening the position of internal audit as a value driver in corporate governance (Fonseca et al., 2020).

Research conducted by Roussy et al. (2020) highlights that the role of internal auditors has evolved to become more strategic and multidimensional. They are not only tasked with ensuring regulatory compliance but also helping organizations understand the risks that arise from digitalization, globalization, and supply chain complexity. In the era of digital transformation, the RBIA allows internal auditors to leverage technologies such as data analytics to detect risk patterns in real-time and provide more accurate insights to management (PwC, 2020). The use of this technology strengthens the position of internal audit as a credible and future-oriented source of information.

In addition, Kaveri (2021) emphasize that the successful implementation of the RBIA is not only influenced by its methodological framework, but also by organizational factors such as top management support, risk culture, and internal auditor competence. In the absence of managerial commitment and investment in auditor capacity building, the RBIA tends to be just an administrative formality without generating strategic value. Erlina et al. (2020) reinforce this view by showing

that the quality of internal audits improves significantly when organizations implement a holistic risk-based approach, including in the planning, execution, and reporting stages of audits.

Meanwhile, the results of a study by Abdurrahman et al. (2020) show that the effectiveness of risk-based internal audits has a positive correlation with the company's financial performance. This is due to the ability of RBIA to help management detect potential losses early and allocate resources efficiently. When strategic and operational risks can be identified early, organizations can reduce the cost of failure, accelerate decision-making, and increase investor confidence levels. In this context, the RBIA not only serves as a control tool, but also as an instrument for improving the performance of the organization as a whole.

COSO (2017) also affirms that the implementation of strong ERM plays a role as a driver of RBIA's success, as it provides a systematic framework for risk management that is aligned with the company's strategy. In organizations that implement ERM consistently, internal auditors can more easily prioritize audits based on the most material risks. In contrast, in organizations that do not have a mature ERM structure, auditors often face difficulties in collecting accurate risk data, which hinders the effective implementation of the RBIA (Griffith, 2020).

El Gharbaoui and Chraibi (2021) note that the integration between ERM and RBIA creates a strong synergy in the internal control system. The ERM provides a comprehensive risk map, while the RBIA provides an independent evaluation of the effectiveness of existing controls. The combination of the two results in a governance system that is more transparent, accountable, and adaptive to external

changes. For example, organizations with strong integration between ERM and RBIA show a faster response to macroeconomic and regulatory risks compared to organizations that still use traditional audit approaches.

Furthermore, research by PwC (2020) found that the implementation of RBIA is more effective when supported by the digitization of the audit process. The use of data analytics, AI-driven risk assessment, and continuous monitoring systems allows internal auditors to identify transaction anomalies and risk patterns more precisely. By utilizing this technology, the audit process becomes more efficient and evidence-based. As a result, internal auditors can provide recommendations that are more relevant and easy to implement by management, thereby increasing the strategic value of internal audits.

In the context of public and non-profit organizations, the RBIA also makes a significant contribution to transparency and accountability. Kaveri (2021) stated that the RBIA assists public organizations in increasing public trust through improving the quality of financial statements and the effectiveness of internal controls. Similar findings were obtained by Kaveri (2021), who found that public sector organizations that implement RBIA show higher levels of compliance with governance standards, as well as have lower levels of operational risk.

In addition to the technical aspect, the success of RBIA is also determined by human factors. Griffith (2020) highlights the importance of the independence, integrity, and professional capacity of internal auditors in ensuring the effectiveness of risk-based audits. Auditors who have analytical skills and a thorough understanding of business processes are better able to identify hidden risks that can

threaten the sustainability of the organization. Therefore, investing in professional training and certifications such as Certified Internal Auditors (CIA) is a strategic step for organizations that want to strengthen the implementation of RBIA.

The results of the literature also show that the RBIA is able to improve the relationship between internal auditors and management. Previously, the audit function was often considered as a party that only looked for faults. However, with a risk-based paradigm, auditors play the role of consultative partners that help management understand and manage risks more effectively (Roussy & Perron, 2018). This approach creates more open and collaborative communication, which ultimately improves the effectiveness of overall corporate governance.

In the long term, RBIA contributes to the development of a risk-aware organizational culture. Organizations that have internalized this approach show increased risk awareness at all levels of management and employees (COSO, 2017). This encourages more prudent and data-driven decision-making, while increasing the organization's resilience to uncertainty. Thus, the RBIA not only serves as a supervisory tool, but also as a catalyst for the transformation of organizational culture towards sustainable governance.

Overall, the results of previous research show that the RBIA is a relevant and effective audit approach in dealing with the challenges of the modern business environment. By integrating ERM principles and utilizing digital technology, RBIA is able to increase the effectiveness of internal oversight, strengthen transparency, and encourage the achievement of organizational strategic goals (Kurniawati, 2017). Implementation challenges that are still faced, such as auditor competence

limitations and lack of management support, can be overcome through ongoing training, cross-functional collaboration, and a commitment to developing a mature risk culture.

5. Discussion

The results of the literature review show that Risk-Based Internal Auditing (RBIA) is not just a technical evolution in internal audit practice, but a paradigmatic transformation that redefines the role of internal auditors in modern organizations. These changes have a significant impact on the way organizations view risk, governance, and strategic value creation. Conceptually, the RBIA demands a strong synergy between internal audit and Enterprise Risk Management (ERM), where the two complement each other in the process of identifying, assessing, and mitigating risks. The Enterprise Risk Management Integrating with Strategy and Performance framework released by COSO (2017) strengthens this relationship by asserting that risk management should be an integral part of an organization's strategy, not a separate activity.

In this context, internal auditors no longer play the role of only verifying compliance, but also as consultants who help management navigate uncertainty. Fonseca et al. (2020) emphasize that today's internal auditors serve as "catalysts for change" that strengthen accountability, transparency, and risk-based decision-making. This requires a balance between independence and collaboration, as auditors must remain objective while taking an active role in helping organizations manage strategic risks. This dual role expands the responsibilities of the internal audit

profession and demands higher competencies in risk analysis, audit technology, and strategic communications.

Nonetheless, the implementation of RBIA in various organizations faces challenges that are not simple. Lois et al. (2021) show that the main obstacle lies in the organization's readiness to adopt a risk culture as well as the lack of management support for the transformation of the internal audit function. Many organizations are still stuck in an old paradigm that views audits as an administrative compliance function, rather than as a strategic partner of risk management. As a result, the implementation of RBIA is often limited to technical aspects without regard to the cultural and leadership aspects that support the sustainability of the practice.

In addition, the development of digitalization also brings new challenges to RBIA. According to PwC (2020), the integration of technologies such as data analytics, AI auditing, and continuous monitoring systems accelerates audit efficiency, but also requires a large investment in auditor capacity building. Auditors must be able to interpret complex data quickly and accurately, while ensuring the integrity of technology-based control systems. If this capability is not developed, then technology risk can actually become a new weak point in the organization's oversight system. From the perspective of organizational effectiveness, RBIA has been proven to have a positive influence on financial performance and company reputation (Mustafa & Al-Nimer, 2018). When strategic risks can be identified and mitigated early, companies have a greater chance of increasing their competitive advantage and strengthening investor confidence.

Nevertheless, El Gharbaoui and Chraibi (2021) remind that the effectiveness of the RBIA is not only determined by its methodology, but also by the professional quality of the internal auditors. Without integrity, independence, and strong analytical skills, the RBIA can lose its meaning as a long-term value assurance system. The results of the discussion confirmed that the success of RBIA lies in the balance between the technical, human, and cultural aspects of the organization. To meet the challenges of the digital age and the complexity of global risks, organizations need to view internal audits as a strategic function integrated with risk management and decision-making. Thus, the RBIA is not only a tool to ensure compliance, but also a mechanism for building sustainable resilience, efficiency, and competitive advantage.

6. Conclusion

This research confirms that the implementation of Risk-Based Internal Auditing (RBIA) is a strategic step in strengthening organizational governance and risk management. Through a risk-based approach, the internal audit function no longer only plays the role of a compliance supervisor, but also as a strategic partner of management that contributes directly to the achievement of organizational goals. The RBIA allows auditors to focus on areas with the highest levels of risk, provide relevant recommendations, and support more effective and evidence-based decision-making. The integration between RBIA and Enterprise Risk Management (ERM) has been proven to strengthen the effectiveness of internal control systems and increase organizational transparency. The ERM framework serves as a basis for

auditors to systematically identify, assess, and evaluate risks, while the RBIA provides a mechanism to validate the effectiveness of the controls implemented.

Both form a synergy that supports organizations to be more adaptive to changing business environments and global uncertainties. In addition, the development of digital technology adds a new dimension to the implementation of RBIA, where the use of data analytics and AI-based monitoring systems speeds up the audit process and improves the accuracy of findings. However, the success of the RBIA remains dependent on human factors, especially the competence, integrity, and independence of internal auditors. With management commitment, a strong risk culture, and professional capacity building, the RBIA can be an important instrument in realizing transparent, efficient, and sustainable governance in the modern business era.

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