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Evaluating the Effectiveness of Internal Auditing in Public Institutions in Morocco: An Accessible and Operational Approach.

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Abstract

The present work explores the effectiveness of internal audit within public institutions, focusing on its central role in improving governance. In this study, the evaluation of internal audit effectiveness is based on two categories of dimensions, incorporating specific variables. The internal dimension encompasses factors such as the skills and qualifications of internal auditors, the independence and objectivity of these auditors, quality management, the resources allocated to internal audit, the organizational culture, and communication and collaboration within the organization. The second category, the external dimension, examines factors such as the regulatory and normative framework, political pressures and external influences, the maturity level of governance and risk management, relationships with external stakeholders, and the evolution of the external context.

Methodologically, the research adopts a pragmatic and accessible approach, combining a five-level rating scale with key indicators selected based on best theoretical practices in internal audit. Four public institutions (A, B, C, and D) are included in the sample, allowing for a rigorous evaluation across more than 61 criteria and 10 factors. The entire process, from data collection to comparative analysis, was designed to minimize operational burden while ensuring accuracy and relevance of the results.

The main conclusion of this study is that this innovative methodology, which combines simplicity and rigor, enables a comprehensive and actionable assessment of internal audit effectiveness in an operational context, while making the results more understandable for decision-makers.

Keywords : Internal Audit, Effectiveness, Governance, Stakeholder Relations, External Factors

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1. Introduction

Traditionally, the assessment of external audit quality has depended on two aspects: the competence of both the auditor and the accounting firm employing them, and their independence. Over time, researchers have also scrutinized the audit process itself as a determining factor in the quality of the final product (Benoît Pigé, Brussels, De Boeck, 2011, 290 p). Effective governance within public institutions largely relies on a relevant evaluation of the effectiveness of internal auditing. This literature review explores the crucial role of this function in the public sector, involving an impartial assessment of operations, processes, and control systems. By highlighting its involvement in various aspects such as risk assessment, legal compliance, operational efficiency improvement, and fraud prevention, this study also examines the determinants of its effectiveness.

In response to the growing need to optimize control processes in a complex business environment, this research proposes a pragmatic approach to evaluating the effectiveness of internal auditing within four public institutions (A, B, C, D). The study aims to provide a holistic and easily interpretable evaluation by combining a five-level rating scale with key indicators specifically selected, based on strong theoretical principles derived from best practices in internal auditing.

This methodology, designed to balance accuracy and simplicity, is based on the evaluation of more than 61 criteria and 10 factors in each institution. It offers a comprehensive approach while minimizing operational burden, from data collection to inter-institutional comparative analysis. In summary, this pragmatic and accessible approach simplifies the complexity of evaluating the effectiveness of internal auditing while maintaining the quality of the assessments, making them more understandable and actionable in an operational context.

2. Literature Review

2.1. The Role of Internal Audit in the Public Sector

In the context of the public sector, internal audit plays a crucial role by providing an impartial and independent assessment of operations, processes, and control systems. It is actively involved in various areas to ensure the proper management of public entities. First, it focuses on evaluating the risks associated with the activities of the public sector, carefully identifying elements that could jeopardize the smooth operation of these activities. Additionally, internal audit ensures strict compliance with the applicable laws, regulations, and policies, ensuring that ethical standards and best practices are adhered to (Yassin, N., Ghanem, M., & Rustom, L., 2012).

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Furthermore, operational efficiency is a key concern of internal audit, as it constantly seeks ways to enhance the efficiency, productivity, and profitability of public sector activities. The judicious management of financial, human, and material resources is also scrutinized to ensure the efficient and responsible use of public funds. Moreover, internal audit helps to increase transparency by reporting to stakeholders, thereby consolidating public trust and the confidence of regulatory bodies in the management of public sector entities.

A crucial element of the internal audit mission lies in preventing fraud and corruption, acting as a safeguard for the integrity of public operations, while also promoting fairness and transparency. These actions significantly contribute to building greater trust, especially among stakeholders and citizens, as highlighted by Goodson, S.G., Mory, K.J., and Lapointe, J.R. in 2012.

Additionally, internal audit evaluates the performance of public sector programs and projects, ensuring that objectives are achieved effectively and efficiently. By identifying weaknesses and offering recommendations, it provides valuable advice to enable the public sector to implement improvements and strengthen its management practices. In summary, internal audit in the public sector strives to ensure accountability, transparency, compliance with standards, and to continuously enhance operational efficiency to ensure responsible management of public resources.

2.2. Determinants of Internal Audit Effectiveness

1) <u>The Internal Dimension of Internal Audit Effectiveness</u>

Competencies and Qualifications of Internal Auditors

Competence is defined as the ability of a person to perform a function or task appropriately. According to Arena and Azzone (2009), competent auditors play a crucial role in providing advice, improving the internal control system, and offering consistent solutions based on their experience. Cohen and Sayag (2010) also emphasize the importance of auditors adhering to continuous training requirements and professional standards issued by organizations like the IIA (The IIA provides professional standards, guidelines, certifications, and other resources for internal audit professionals worldwide). Several studies have established a positive and significant relationship between the competence of internal auditors and internal audit effectiveness. Mihret and Yismaw (2007) concluded that the technical competence and continuous training of the internal audit team are essential prerequisites for ensuring the effectiveness of this function. Interviews conducted in a study by Shamsuddin et al. (2014)

highlighted that insufficient knowledge in an auditor can negatively impact the quality of audit reports, thus affecting internal audit effectiveness. Other research has also confirmed that high internal audit effectiveness is associated with high auditor competence (Mustika, 2015; George et al., 2015; Alzeban & Gwilliam, 2014; Salehi, 2015; Arena & Azzone, 2009).

Independence and Objectivity of Internal Auditors

Several authors have emphasized the fundamental importance of independence and objectivity in conducting quality audits. Flint (1988) and Sarens & De Beelde (2006) highlight independence as an essential element of the audit process, while Lee & Stone (1973) link it to the ability to evaluate crucial evidence for forming an objective opinion. Hierarchical positioning, according to Christopher, Sarens, and Leung (2009), is crucial to ensuring the independence of internal auditors, supported by Stewart & Subramaniam (2010). Audit standards, notably Standard 1110 of the IPPF, require the head of internal audit to be affiliated with an organizational level that allows them to fulfill their responsibilities, balancing between a connection to top management and sufficient independence from the audited entities (Cohen & Sayag, 2010). Direct reporting to the board, stipulated by the same Standard 1110, is also crucial for the independence of the internal audit function (Chapman, 2001; Schneider, 2003). However, challenges such as role ambiguity and simultaneously conducting audit and advisory missions expose internal auditors to potential threats like self-assessment (Hazami Ammar Sourour, 2016). Proactively managing conflicts of interest, rotating auditors, and establishing strong relationships with management are crucial for maintaining objectivity (Muttchler, 2013; Khalil Feghali, 2018; Mihret & Yismaw, 2007).

Quality Management and Resources Allocated to Internal Audit

The quality of internal audit (IA) is defined by its ability to formulate conclusions and recommendations that are beneficial for organizations. Mihret & Yismaw (2007) emphasize that it encompasses relevant planning, effective communication, and a broad definition of the IA scope. To ensure this quality, the IA function must expand its scope to all areas that require attention, planning appropriately through strategic plans, annual plans, and individual mission programs. Documenting audit work is essential for evaluating quality and ensuring compliance with predetermined plans while providing adequate evidence. Effective communication with audited parties is also emphasized, accompanied by follow-up to ensure the implementation of recommendations.

In parallel, international audit standards require auditors to conduct their missions objectively and in accordance with professional practice criteria, thereby contributing to a systematic and

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disciplined improvement of risk management, control, and governance (Lenz & Hahn, 2015). The quality of IA becomes crucial not only for meeting legal requirements but also because of its potential impact on sensitive areas. Surveys, such as the one by Ahmad et al. (2009), show that the majority of respondents consider the quality of IA as a determining factor for its effectiveness. Other studies confirm this idea, establishing a positive and significant correlation between audit quality and its effectiveness (George et al., 2015; Cohen & Sayag, 2010; Mihret & Yismaw, 2007).

Organizational Culture

Organizational culture emerges as an essential element for maximizing internal audit effectiveness, and this complex relationship can be explored through various theoretical, empirical, and professional foundations. Theories of organizational culture, such as the integration theory, suggest that a strong and integrated culture fosters communication and collaboration, crucial aspects for the success of internal audit. Similarly, the shared values theory emphasizes that common values within the organizational culture can positively influence employees' perception and interaction with internal audit. Empirical studies reinforce these theoretical notions by concretely examining the impact of organizational culture on internal audit. The work of Alzeban (2015) demonstrates how specific organizational cultures affect employees' perceptions of internal audit, highlighting significant variations between developed and developing countries. The research of Sarens and Abdolmohammadi (2010) explores the link between the professionalism of internal audit and the dominant cultural context, revealing divergences related to specific cultural traits.

Communication and Collaboration within the Organization

Theoretical, empirical, and professional approaches converge coherently to highlight the fundamental role of communication and collaboration in the context of internal audit. Davidson's communication theory, which emphasizes the inevitability and multidimensional nature of communication, provides an essential conceptual framework for understanding the challenges related to information transmission. Similarly, the strategic actor theory highlights the strategic importance of communication between internal auditors and organizational members. Empirical studies, such as those by Davidson, Quinn & Hargie, and Golen, tangibly confirm the imperative of effective communication within the organization. In the Ethiopian context, Mihret & Yismaw (2007, p. 478) emphasize the critical importance of communication by stating that even if the audit is meticulously planned and executed, the results may lose relevance if the audit report does not have a professional quality that prompts readers to take corrective action against identified shortcomings. Van Gansberghe (2005) adds an important dimension by asserting that assertive communication, highlighting the strengths and achievements of the audited entity before pointing out deficiencies, improves the perception of internal audit by the audited. He insists that the auditor should not be perceived solely as a critic but rather as a professional who offers a balanced perspective.

2) The External Dimension of Internal Audit Effectiveness

Regulatory and Normative Framework

The institutional and cultural environment in which internal audit services operate has a significant influence on the governance of public institutions (PIs) (Van Gils et al., 2008). Similarly, Usang and Salim (2018) highlighted the correlation between the institutional environment, internal audit, and the performance of public organizations in Nigeria. Their findings demonstrate that the impact of internal audit quality and internal controls on performance is consistently modulated by the institutional environment, thereby determining how these two elements contribute to the outcomes of public enterprises. It is therefore crucial that internal audit operates within a favorable institutional environment, as this function does not evolve in isolation. The assumption that internal audit adds value is based on the idea that this function is well-supported and equipped to function in an environment that promotes an ethical culture (Usang and Salim, 2018).

Baltaci and Yilmaz (2006) emphasize that internal controls and the internal audit function alone are not sufficient to guarantee optimal organizational performance. They argue that other governance elements within the institutional environment play a crucial role in determining outcomes. This institutional environment encompasses various variables aimed at enhancing the effectiveness of functions, including government regulations, internal audit relationships, collaboration between internal and external audit, planning, mission statements, political interference, management commitment, and corporate ethical culture. The presence of these institutional variables will either reinforce or limit the contribution of the internal audit function to the governance of PIs.

Political Pressures and External Influences

Political pressures and external influences can have a significant impact on the quality of internal audit within public institutions. When political pressures are present, they can lead to distortions in the execution of the auditor's responsibilities, potentially influencing conclusions and recommendations. For example, specific political demands may selectively direct the audit, emphasizing certain aspects at the expense of other crucial areas, thereby compromising the objectivity of internal audit. When internal audit is heavily influenced by external interests, it may be tempted to moderate its conclusions or downplay certain issues to avoid potential conflicts. This external influence can manifest through specific requests aimed at steering audit conclusions in a particular direction.

Overall, these political pressures and external influences can compromise the independence, objectivity, and integrity of internal audit, leading to a decline in its quality. It is imperative that internal auditors resist such pressures, maintain their objectivity, and focus on conducting impartial and rigorous audits, in compliance with professional standards and best practices, regardless of political or external influences.

An interesting approach is proposed by Christopher et al. (2009), who suggest that the independence of internal audit should be assessed considering its relationship with both management and the board of directors. They argue that a balanced relationship with these two parties can ensure stronger independence.

In conclusion, the study underscores the need for a delicate balance in the involvement of internal audit with management and the board of directors. Too much or too little involvement can compromise its effectiveness. Internal auditors must be aware of the potential risks associated with their dual role and seek an optimal balance to best serve the interests of all stakeholders.

The independence of internal auditors plays a crucial role in maintaining the effectiveness of internal audit (IA), particularly in the face of political pressures and external influences. Without independence, audit reports risk being influenced, thereby compromising their usefulness in improving the accountability and transparency of public organizations. According to Shamsuddin et al. (2014), the independence and objectivity of auditors are key elements in preventing financial scandals and fraud within public organizations.

Several studies confirm a positive and significant association between IA effectiveness and the independence of internal auditors (George et al., 2015; Dejnaronk et al., 2015; Cohen and Sayag, 2010; Alzeban and Gwilliam, 2014; Salehi, 2015). Mustika (2015) highlights that the lack of auditor independence is an obstacle to the performance of the IA function, especially in the face of political pressures. Dellai and Omri (2016) emphasize a positive and significant relationship between IA independence and its effectiveness, underscoring the importance of the dual reporting structure of the IA head in strengthening independence and improving the effectiveness of the internal audit function, particularly in resisting external influences.

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Maturity Level of Governance and Risk Management

To concretize the impact of the maturity level of governance and risk management on the quality of internal audit, an integrated approach combines three distinct perspectives. The theoretical foundations, outlined by authors such as agency theory and stakeholder theory, provide an essential conceptual framework for understanding how governance influences the quality of internal audit. These theories emphasize the importance of robust governance in mitigating conflicts of interest among stakeholders and ensuring the independence of internal audit (Jensen & Meckling, 1976; Freeman, 1984).

From an empirical standpoint, surveys conducted by Zain and Alzeban (2020) in Saudi Arabia analyzed the impact of corporate governance on internal audit effectiveness in banks, revealing a significant influence of corporate governance on internal audit effectiveness. Similarly, a study by Chan and Vasarhelyi (2018) examined the correlation between corporate governance and the adoption of information technology in internal audit, clearly demonstrating the influence of corporate governance on the use of information technology in internal audit. Furthermore, the research by Bédard and Gendron (2010) explored the relationship between corporate governance and internal audit independence, highlighting a significant impact of corporate governance on this independence.

Regarding the impact of risk management on internal audit quality, Simunic's (1980) work evaluated how the implementation of advanced risk management practices affects the quality of internal audits, demonstrating a significant improvement associated with such practices. Similarly, the survey by Krishnan and Visvanathan (2008) assessed how risk management strategies influence internal audit performance, revealing a positive correlation between proactive risk management at the organizational level and the quality of assessments conducted by internal audit. The work of Vasarhelyi and Halper (1991) also analyzed the impact of integrating risk management technologies on internal audit effectiveness, indicating that the adoption of advanced technologies contributed to increased accuracy and coverage of internal audits. Additionally, the study by Chenhall and Langfield-Smith (1998) examined the influence of risk management-based management control systems on internal audit quality, revealing that organizations integrating such systems benefited from more effective internal audits. The survey by Ho and Wu (2001) evaluated how risk management strategies impact the reliability of information generated by internal audit, highlighting the crucial importance of proactive risk management in improving the quality of information provided by internal audit.

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In summary, the theoretical foundations, empirical studies, and professional aspects converge to underscore the crucial importance of governance and risk management in determining the quality of internal audit practices, as demonstrated by Jensen & Meckling, Freeman, Zain & Alzeban, Chan & Vasarhelyi, Bédard & Gendron, Simunic, Krishnan & Visvanathan, Vasarhelyi & Halper, Chenhall & Langfield-Smith, and Ho & Wu.

Relationships with External Stakeholders

Internal audit, as an essential function within organizations, operates within a complex environment where interactions with external stakeholders are of paramount importance. To understand the dynamics between internal audit and these external actors, an integrated approach, combining theoretical, empirical, and professional perspectives, is essential.

Theoretically, Agency Theory highlights the crucial role of internal audit as an internal monitoring mechanism that meets the expectations of external stakeholders. Corporate Social Responsibility (CSR) Theory emphasizes the role of internal audit in assessing compliance with CSR standards, addressing societal concerns.

Empirical aspects, illustrated by studies such as those by Raghunandan, Goodwin, Arena, Azzone, Rose, Norman, and Davies, confirm the significant impact of the relationship between internal audit and stakeholders, particularly the board of directors (BoD), on internal audit effectiveness. The composition of the BoD, its independence, and its expertise positively influence active monitoring of internal audit.

These findings underscore the importance of effective coordination between internal audit and the BoD, as well as a close working relationship. However, nuances are noted, including the potentially negative implications when the head of internal audit reports directly to the audit committee, highlighting the subtleties of this dynamic.

In conclusion, this synthesis of theoretical, empirical, and professional perspectives highlights the critical importance of the relationship between internal audit and external stakeholders, thereby establishing essential foundations for understanding and improving the effectiveness of internal audit within contemporary organizations.

Evolution of the External Context

The rapid evolution of the external context has profoundly influenced the practice of internal audit, leading to theoretical, empirical, and normative adaptations. According to the work of Lenz and Hoos (2023), this evolution requires internal auditors to transition from traditional approaches to more flexible methodologies to address the increasing complexity of the external business environment. Empirically, the integration of digital technologies and ESG issues into

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internal audit practice has become essential, with tools such as automation, advanced analytics, and ESG reporting verification. Internal auditors, in alignment with Lenz and Hoos' recommendations, are expanding their scope of investigation to anticipate and manage emerging risks related to ESG issues, demonstrating a proactive and adaptive response in accordance with professional standards. In summary, internal audit, by evolving in tandem with changes in the external context, demonstrates its ability to ensure its effectiveness in a constantly changing environment, which positively impacts its relevance and quality.

3. Research Methodology

Evaluating the effectiveness of internal auditing is crucial for enhancing governance practices within public institutions. In a context where optimizing control processes remains a constant concern for organizations, it is essential to develop robust and accessible evaluation methodologies. This study presents a pragmatic and simplified approach to assessing the effectiveness of internal auditing within four public institutions (A, B, C, and D). Given the increasing complexity of institutional environments, it is imperative to implement evaluation methods that are both rigorous and practical.

The main objective of this study is to provide a holistic and easily interpretable assessment of internal audit effectiveness, using a methodology that combines a five-level rating scale with specifically selected key indicators. This methodology is based on solid theoretical foundations derived from best practices in internal auditing, ensuring a faithful evaluation of audit practices.

The choice of this methodology stems from the need to balance precision and simplicity, with over 61 criteria and 10 factors evaluated in each institution. The study's structure, which ranges from data collection to inter-institutional comparative analysis, is carefully designed to provide a comprehensive assessment while minimizing operational burden.

This methodology offers a pragmatic and accessible approach to evaluating the effectiveness of internal auditing in various contexts, simplifying complexity without compromising the quality of evaluations, and instead making them more understandable and actionable in an operational context.

3.1. Sampling:

In this study, four public institutions were selected, each representing a specific category of public institution in Morocco. Institution A is local in nature, B is administrative, C has a commercial orientation, while D is industry-focused. This selection was motivated by the desire to ensure the representativeness of various categories of public institutions in Morocco.

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3.2. Data Collection:

Information is gathered through semi-structured interviews, the use of questionnaires, and primarily through telephone and email interviews with the heads of internal audit services. This approach allows for the effective and targeted acquisition of both qualitative and quantitative data.

3.3. Evaluation Criteria: Assessment Indicators:

Each parameter selected to evaluate internal audit effectiveness is assessed using a series of indicators rated from 1 to 5.

Rating Scale:

- Level 1: Very low (Score ≤ 10%)
- Level 2: Low (10% ≥ Score ≤ 40%)
- Level 3: Medium (40% ≥ Score ≤ 60%)
- Level 4: High (60% ≥ Score ≤ 80%)
- Level 5: Excellent (Score > 80%)

3.4. Data Analysis:

- Conduct an analytical description for each institution, highlighting scores by category.
- Identify areas of strength and those requiring improvement.

3.5. Inter-Institutional Comparison:

- Compare aggregate scores between institutions to establish comparisons.
- Use visual charts to illustrate differences.

4. Key results

4.1. Competency and Qualification Levels

Level 1: Novice

- **Training and Certification**: Auditor in training, without formal certification.
- **Skills**: Limited knowledge of audit standards and procedures. Requires close supervision.
- **Continuing Education**: Infrequent participation in continuing education programs.

Level 2: Beginner

- **Training and Certification**: Holds a basic certification in internal auditing or equivalent training.

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- **Skills**: Understands fundamental audit principles. Can perform simple tasks with supervision.
- **Continuing Education**: Occasionally participates in continuing education programs.

Level 3: Competent

- **Training and Certification**: Holds advanced certifications in internal auditing. Has completed specialized training.
- **Skills**: Capable of conducting audits independently. Understands and applies advanced concepts.
- **Continuing Education**: Regularly participates in continuing education programs.

Level 4: Expert

- **Training and Certification**: Holds expert-level certifications in internal auditing. Recognized for specialized skills.
- **Skills**: Possesses deep expertise in specific audit areas. Can train other auditors.
- **Continuing Education**: Actively engages in advanced training and mentoring programs.

Level 5: Master

- **Training and Certification**: Considered a thought leader in internal auditing. Holds advanced certifications and honors.
- **Skills**: Recognized for significant contributions to the field. Can develop complex audit strategies.
- **Continuing Education**: Initiates new training programs. Actively shares knowledge with the audit community.

These levels are indicative and can be adapted to the specific needs of the organization. They provide a scale to measure the progression of internal auditors in their professional development and ensure that evaluations are based on clear and objective criteria.

To assess the efficient management of resources allocated to internal auditing, particularly in relation to improving operational effectiveness, indicators 4, 5, and 6 can be evaluated on a five-level scale. Each level reflects an increasing degree of effective resource management.

	Criteria	E(A)	E(B)	E(C)	E(D)

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1	**Training and Certification:** University Degrees Obtained - Professional Certification (e.g., SIA Certificate, CISA, etc.)	1	2	2	2
2	**Skills: Assessment of Technical Skills, Participation in Complex Missions, Feedback from Peers and Supervisors**	1	2	1	2
3	**Continuing Education: Continuing Education Participation Rate, Perceived Quality of Continuing Education, Effectiveness of Training in Terms of Practical Application on the Field**	1	2	2	3
	Total	3	6	5	7
	Best possible score	15	15	15	15
	Efficiency rate	20%	40%	34%	47%
	Result	**Level 2 : Low** (10% ≥ Score ≤ 40%)	**Level 2 : Low** (10% ≥ Score ≤ 40%)	**Level 2 : Low** (10% ≥ Score ≤ 40%)	**Level 3 : Medium** (40% ≥ Score ≤ 60%)

"Evaluation of the Effectiveness of the Skills and Training of Internal Auditors: Comparative Analysis of Public Institutions A, B, C, and D" / (Source: prepared by the authors)

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4.2. Levels of Independence and Objectivity of Internal Auditors

1) Independence of Internal Auditors

Level 1: High Dependence (Baseline)

Internal auditors are highly influenced by external or internal factors, compromising their independence. Significant improvements are needed to strengthen independence.

Level 2: Limited Independence

While internal auditors demonstrate some level of independence, internal or external influences may still exert pressure. Corrective actions are necessary to increase independence.

Level 3: Moderate Independence

Internal auditors exhibit moderate independence, but there are specific areas where improvements are possible. Ongoing efforts are being made to reinforce independence.

Level 4: Advanced Independence

Internal auditors are generally independent and effectively resist internal and external pressures. Mechanisms are in place to ensure that independence is maintained even in complex situations.

Level 5: Excellence in Independence

The independence of internal auditors is excellent, exceeding expectations and meeting the highest professional standards. Best practices are in place, and the organizational culture actively supports independence.

	Criteria	E(A)	E(B)	E(C)	E(D)
1	**Frequency of Interactions with Management**	2	3	3	3
2	**Number of direct reports to the Board of Directors or Audit Committee**	1	2	2	2
3	**Rate of compliance with independence standards**	2	3	3	3
4	**Frequency of formal assessments of the independence of the internal audit team**	1	3	3	1
5	**Management of declared conflicts of interest**	1	2	2	2
6	**Reactions to External or Internal Pressures**	1	2	2	2

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	Total	8	15	15	13
	Best possible score	30	30	30	30
	Efficiency rate	27%	50%	50%	34%
	Result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 2 : Low (10% ≥ Score ≤ 40%)

"Evaluation of the Independence of Internal Audit: Comparative Analysis of Interactions and Compliance in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

2) Objectivity of Internal Auditors

Level 1: Compromised Objectivity (Baseline)

The objectivity of internal auditors is often compromised, influenced by personal or organizational factors. Immediate actions are necessary to improve objectivity.

Level 2: Limited Objectivity

Internal auditors exhibit a certain degree of objectivity, but potential biases persist. Efforts are needed to identify and mitigate factors that could influence objectivity.

Level 3: Moderate Objectivity

Objectivity is moderately maintained, but additional procedures can be implemented to further strengthen neutrality. Internal auditors recognize the potential risks of bias.

Level 4: Advanced Objectivity

Internal auditors demonstrate advanced objectivity in their work. They actively identify and manage potential influences on their objectivity, ensuring an impartial approach to audit tasks.

Level 5: Excellence in Objectivity

The objectivity of internal auditors is excellent, exceeding professional standards. Sophisticated mechanisms are in place to ensure impartial evaluation, and the organizational culture actively promotes objectivity.

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	Criteria	E(A)	E(B)	E(C)	E(D)
1	**Compliance with professional standards**	2	2	3	3
2	**Structural and functional independence**	3	3	3	3
3	**clarity, transparency and neutrality in the presentation of findings and recommendations**	3	3	3	3
	Total	8	8	9	9
	Best possible score	15	15	15	15
	Efficiency rate	53%	53%	60%	60%
	Result	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)

"Analysis of Objectivity in Internal Audit: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

4.3. Levels of Effective Resource Management

Level 1: Insufficient

- Budget Ratio (Indicator 4): Low budget allocation compared to audit activities.
- Availability of Technological Resources (Indicator 5): Insufficient or outdated technological resources.
- Auditor Satisfaction (Indicator 6): Widespread dissatisfaction with the allocated resources.

Level 2: Weak

- Budget Ratio (Indicator 4): Budget allocation below the audit needs.
- Availability of Technological Resources (Indicator 5): Some technological resources are available but not optimal.
- Auditor Satisfaction (Indicator 6): Dissatisfaction persists regarding the allocated resources.

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Level 3: Acceptable

- Budget Ratio (Indicator 4): Satisfactory budget allocation relative to audit activities.
- Availability of Technological Resources (Indicator 5): Adequate technological resources are available.
- Auditor Satisfaction (Indicator 6): General satisfaction with the allocated resources.

Level 4: Good

- Budget Ratio (Indicator 4): Optimal budget allocation relative to audit activities.
- Availability of Technological Resources (Indicator 5): Advanced and appropriate technological resources are available.
- Auditor Satisfaction (Indicator 6): High satisfaction with the allocated resources.

Level 5: Excellent

- Budget Ratio (Indicator 4): Exceptional budget allocation, allowing operational flexibility.
- Availability of Technological Resources (Indicator 5): Cutting-edge technological resources providing a competitive advantage.
- Auditor Satisfaction (Indicator 6): Maximum satisfaction, with allocated resources exceeding expectations.

	Criteria	E(A)	E(B)	E(C)	E(D)
1	human, financial and technological resources are allocated in line with the organisation's strategic internal audit priorities	2	3	3	3
2	Cost control mechanisms to prevent budget overruns	1	2	2	2
3	the productivity of the audit team in terms of assignments completed per unit of time	3	4	3	3
4	flexibility of processes to adapt to changes in the audit environment	1	1	2	1

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5	technological tools are adapted to needs and used optimally	1	1	1	1
	Total	8	11	11	10
	Best possible score	25	25	25	25
	Efficiency rate	32%	44%	44%	40%
	Result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 2 : Low (10% ≥ Score ≤ 40%)

"Analysis of **Effective Management of Internal Audit Resources**: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

These levels provide a framework for assessing how resource management impacts the operational effectiveness of internal auditing. The scale allows for measuring the maturity of resource management and identifying areas needing improvement to optimize the overall effectiveness of internal auditing within public institutions.

When evaluating the presence of an organizational culture that promotes transparency, ethics, and accountability in relation to the quality of internal audit assessments, indicators 7, 8, and 9 can be evaluated using a five-level scale. Each level reflects an increasing degree of a positive organizational culture.

4.4. Levels of Organizational Culture

Level 1: Absence of a Positive Culture

- Organizational Culture Survey (Indicator 7): Low perception of the organizational culture by the internal audit team members.
- Transparency Assessment (Indicator 8): Low evaluation of the transparency of internal audit processes by stakeholders.
- Number of Reports (Indicator 9): Rare internal irregularity reports.

Level 2: Weak Positive Culture

- Organizational Culture Survey (Indicator 7): Mixed perception of the organizational culture by the internal audit team members.
- Transparency Assessment (Indicator 8): Partial evaluations of the transparency of internal audit processes by stakeholders.
- Number of Reports (Indicator 9): A few internal irregularity reports.

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Level 3: Acceptable Culture

- Organizational Culture Survey (Indicator 7): Acceptable perception of the organizational culture by the internal audit team members.
- Transparency Assessment (Indicator 8): Positive evaluations of the transparency of internal audit processes by stakeholders.
- Number of Reports (Indicator 9): Moderate internal irregularity reports.

Level 4: Strong Positive Culture

- Organizational Culture Survey (Indicator 7): Positive perception of the organizational culture by the internal audit team members.
- Transparency Assessment (Indicator 8): Highly positive evaluations of the transparency of internal audit processes by stakeholders.
- Number of Reports (Indicator 9): Frequent internal irregularity reports due to a strong reporting culture.

Level 5: Excellent Positive Culture

- Organizational Culture Survey (Indicator 7): Exceptionally positive perception of the organizational culture by the internal audit team members.
- Transparency Assessment (Indicator 8): Exceptionally positive evaluations of the transparency of internal audit processes by stakeholders.
- Number of Reports (Indicator 9): A high number of internal irregularity reports due to high trust in the reporting process.

	Criteria	E(A)	E(B)	E(C)	E(D)
1	values, standards and ethics within the organisation	1	1	2	1
2	feedback from external and internal stakeholders on the transparency of the internal audit process	1	1	2	2
3	collaboration and communication within the internal audit team and between internal audit and other departments	2	3	3	3

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4	Job satisfaction and well-being within the internal audit team	2	3	3	3
5	the number of reports of internal irregularities	1	1	1	1
	Total	7	9	11	10
	Best possible score	25	25	25	25
	Efficiency rate	28%	36%	44%	44%
	Result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)

"Analysis of **Organizational Culture** in Internal Audit: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

4.5. Levels of Communication and Collaboration

Level 1: Insufficient Communication and Collaboration

- Communication Evaluation Score (Indicator 10): Very low score, indicating ineffective internal communication.
- Recommendation Implementation Rate (Indicator 11): Very low rate of implementing audit recommendations.
- Follow-up Meeting Frequency (Indicator 12): Rare follow-up meetings.

Level 2: Poor Communication and Collaboration

- Communication Evaluation Score (Indicator 10): Low score, indicating limited internal communication.
- Recommendation Implementation Rate (Indicator 11): Low rate of implementing audit recommendations.
- Follow-up Meeting Frequency (Indicator 12): Sporadic follow-up meetings.

Level 3: Acceptable Communication and Collaboration

- Communication Evaluation Score (Indicator 10): Average score, indicating acceptable internal communication.
- Recommendation Implementation Rate (Indicator 11): Moderate rate of implementing audit recommendations.
- Follow-up Meeting Frequency (Indicator 12): Regular but not frequent follow-up meetings.

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Level 4: Good Communication and Collaboration

- Communication Evaluation Score (Indicator 10): High score, indicating effective internal communication.
- Recommendation Implementation Rate (Indicator 11): High rate of implementing audit recommendations.
- Follow-up Meeting Frequency (Indicator 12): Frequent and well-planned follow-up meetings.

Level 5: Excellent Communication and Collaboration

- Communication Evaluation Score (Indicator 10): Exceptional score, indicating outstanding internal communication.
- Recommendation Implementation Rate (Indicator 11): Exceptionally high rate of implementing audit recommendations.
- Follow-up Meeting Frequency (Indicator 12): Frequent, well-planned, and highly productive follow-up meetings.

	Criteria	E(A)	E(B)	E(C)	E(D)
1	**Frequency of Internal Audit Team Meetings**	3	4	4	4
2	the effectiveness of communication and collaboration tools such as instant messaging platforms, project management software and shared workspaces	2	3	3	4
3	**Clarity of Communications and Feedback on Communication and Collaboration Processes**	2	2	2	2
4	**Continuing Education in Communication and Collaboration**	1	1	2	2

5	Integrating audit feedback into the continuous improvement process for communication and collaboration	1	2	1	1
	Total	9	12	12	13
	Best possible score	25	25	25	25
	Efficiency rate	36%	48%	48%	52%
	Result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)

"Analysis of **Communication and Collaboration** in Internal Audit: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

4.6. Levels of Regulatory Compliance and Clarity

Level 1: Insufficient Compliance

- Compliance Level (Indicator 16): Very low level of compliance with regulatory standards.
- Number of Violations (Indicator 17): High number of identified and unresolved regulatory violations.
- Perception Evaluation (Indicator 18): Very negative perception of the clarity and relevance of the regulatory framework by internal auditors.

Level 2: Low Compliance

- Compliance Level (Indicator 16): Low level of compliance with regulatory standards.
- Number of Violations (Indicator 17): Some identified regulatory violations with partial measures taken.
- Perception Evaluation (Indicator 18): Negative perception of the clarity and relevance of the regulatory framework by internal auditors.

Level 3: Acceptable Compliance

- Compliance Level (Indicator 16): Acceptable level of compliance with regulatory standards.
- Number of Violations (Indicator 17): Identified regulatory violations addressed appropriately.

- Perception Evaluation (Indicator 18): Neutral to positive perception of the clarity and relevance of the regulatory framework by internal auditors.

Level 4: Good Compliance

- Compliance Level (Indicator 16): Good level of compliance with regulatory standards.
- Number of Violations (Indicator 17): Rare regulatory violations effectively addressed.
- Perception Evaluation (Indicator 18): Positive perception of the clarity and relevance of the regulatory framework by internal auditors.

Level 5: Excellent Compliance

- Compliance Level (Indicator 16): Exceptional level of compliance with regulatory standards.
- Number of Violations (Indicator 17): No or very rare identified regulatory violations.
- Perception Evaluation (Indicator 18): Exceptionally positive perception of the clarity and relevance of the regulatory framework by internal auditors.

	Criteria	E(A)	E(B)	E(C)	E(D)
1	**Compliance with Internal Auditing Standards**	2	3	3	3
2	**Compliance with external regulations (laws, etc.)**	2	3	3	3
3	**Regulatory Risk Analysis**	2	2	2	2
4	**Responsiveness to external audits**	2	3	3	2
5	**the quality of internal compliance processes, such as policy management, ongoing monitoring and regular review of procedures**	1	1	1	1

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6	**Compliance awareness assessment**	1	1	1	1
	Total	10	13	13	12
	Best possible score	30	30	30	30
	Efficiency rate	33%	43%	43%	40%
	Result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 2 : Low (10% ≥ Score ≤ 40%)

"Analysis of **Compliance and Regulatory Framework** in Internal Audit: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

4.7. Levels of Relations with External Stakeholders

Level 1: Insufficient Relations

- Stakeholder Satisfaction Evaluation (Indicator 19): Very low level of satisfaction among external stakeholders.
- Number of Integrated Recommendations (Indicator 20): No audit recommendations integrated into organizational policies or practices following discussions with external stakeholders.
- Frequency of Consultations (Indicator 21): Very rare consultations with external stakeholders.

Level 2: Weak Relations

- Stakeholder Satisfaction Evaluation (Indicator 19): Low level of satisfaction among external stakeholders.
- Number of Integrated Recommendations (Indicator 20): A few audit recommendations integrated in a limited manner into organizational policies or practices.
- Frequency of Consultations (Indicator 21): Sporadic consultations with external stakeholders.

Level 3: Acceptable Relations

- Stakeholder Satisfaction Evaluation (Indicator 19): Acceptable level of satisfaction among external stakeholders.

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- Number of Integrated Recommendations (Indicator 20): Moderately integrated audit recommendations into organizational policies or practices.
- Frequency of Consultations (Indicator 21): Regular but not frequent consultations with external stakeholders.

Level 4: Good Relations

- Stakeholder Satisfaction Evaluation (Indicator 19): High level of satisfaction among external stakeholders.
- Number of Integrated Recommendations (Indicator 20): Satisfactorily integrated audit recommendations into organizational policies or practices.
- Frequency of Consultations (Indicator 21): Frequent and well-planned consultations with external stakeholders.

Level 5: Excellent Relations

- Stakeholder Satisfaction Evaluation (Indicator 19): Exceptional level of satisfaction among external stakeholders.
- Number of Integrated Recommendations (Indicator 20): Exceptionally integrated audit recommendations into organizational policies or practices.
- Frequency of Consultations (Indicator 21): Exceptionally frequent and highly productive consultations with external stakeholders.

	Criteria	E(A)	E(B)	E(C)	E(D)
1	**Transparent communication**	2	3	3	3
2	**Working with External Auditors**	3	3	4	4
3	**Responsiveness to stakeholder concerns**	2	3	3	3
4	**Frequency of reporting to external stakeholders**	1	2	2	2

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5	**Stakeholder Satisfaction Assessment**	1	2	2	2
6	**Alignment with stakeholder expectations**	1	2	2	1
7	**Stakeholder Risk Assessment**	2	3	3	3
	Total	12	18	19	18
	Best possible score	35	35	35	35
	Efficiency rate	34%	51%	54%	51%
	Result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 3 : Medium (40% ≥ Score ≤ 60%)

"Analysis of the Relationship with External Stakeholders in Internal Audit: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

4.8. Levels of Political Pressures and External Influence

Level 1: High Political Influence (Baseline)

Internal audit is strongly influenced by political pressures and external influences. Audit decisions are often swayed by political considerations, compromising objectivity and integrity.

Level 2: Significant Political Influence

Significant political influences are present, and internal audit may occasionally be impacted. Corrective actions are needed to mitigate these influences and strengthen objectivity.

Level 3: Moderate Influence, Ongoing Resistance

Although political influences exist, internal audit is making efforts to resist them. Mechanisms are in place to identify and mitigate political pressures, but improvements can be made.

Level 4: Advanced Resistance to Political Influence

Internal audit demonstrates advanced resistance to political pressures and external influence. Effective procedures and policies are in place to ensure independence and objectivity despite political challenges.

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Level 5: Excellent Resistance to Political Influence

Internal audit excels in resisting political pressures and external influence. The organizational culture actively supports independence, and internal auditors maintain exemplary objectivity in the face of any political pressure.

	Criteria	E(A)	E(B)	E(C)	E(D)
1	The ability of the internal audit function to maintain its independence	2	2	2	2
2	The existence of specific protocols for dealing with such situations (Political Pressure and External Influence)	1	1	1	1
3	formal political risk assessment in the audit planning process	1	1	1	1
4	**Transparent communication on independence**	1	1	1	1
5	**Reactivity to Political Change and External Influence**	1	1	1	1
6	Protection of auditors against repercussions	1	1	1	2
7	Thematic Governance Audits	1	2	2	2
8	Evaluation of relations with political stakeholders	1	1	2	2

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9	Continuous training for auditors on political pressure	1	1	1	1
	Total	10	11	12	13
	Best possible score	45	45	45	45
	Efficiency rate	22%	24%	27%	29%
	Result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 2 : Low (10% ≥ Score ≤ 40%)

"Analysis **of Political Pressures and External Influences** in Internal Audit: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

4.9. Levels of Governance and Risk Management Maturity

Level 1: Basic Maturity (Baseline)

Governance is at a basic level of maturity. Governance practices are informal, governance structures may be unclear, and there is a lack of documentation or formalization of processes.

Level 2: Emerging Maturity

Governance is emerging with some formalization of structures and processes. However, there are gaps in implementation and documentation, and compliance with governance standards and best practices is inconsistent.

Level 3: Developed Maturity

Governance is at a developed level of maturity. Governance structures and processes are formally established and documented. Efforts are made to ensure compliance with standards and best practices, but continuous improvements are necessary.

Level 4: Advanced Maturity

Governance is at an advanced level of maturity. Structures and processes are robust, well-documented, and regularly re-evaluated for effectiveness. Compliance with standards and best practices is generally maintained, with an organizational culture oriented towards governance.

Level 5: Governance Excellence

Governance is excellent and exceeds established standards and best practices. There is a strong culture of governance, with regular evaluation mechanisms, adaptability to changes, and a continuous pursuit of excellence in governance.

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	Criteria	E(A)	E(B)	E(C)	E(D)
1	robust governance processes (composition and operation of the Board of Directors, committees, etc.)	2	3	3	3
2	Transparency and Communication (Quality of relations with stakeholders, reliability and publication of financial and operational reports)	2	2	2	2
3	regular communication with board members outside official periods, providing updates on key developments	1	1	2	1
4	Active Listening Measures (polls, surveys)	1	1	1	1
5	Integrating ESG indicators into reporting	1	2	3	3
6	Ensuring comprehensive coverage of critical risks	1	2	2	2
	Total	8	11	13	12

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	Best possible score	30	30	30	30
	Efficiency rate	27%	37%	43%	40%
	result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 3 : Medium (40% ≥ Score ≤ 60%)	Level 2 : Low (10% ≥ Score ≤ 40%)

"Analysis of Governance Maturity: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

4.10. Levels of External Context Evolution

Level 1: Stability (Baseline)

The external context is relatively stable, with few significant changes. External factors have a limited impact on the organization, and short-term forecasts are predictable.

Level 2: Minor Changes

Minor changes are observed in the external context, but they have no major effects on the organization. Necessary adjustments are generally limited and manageable.

Level 3: Moderate Evolutions

The external context experiences moderate evolutions. Some trends are emerging, and the organization must proactively adapt to maintain its performance. Strategic adjustments are necessary.

Level 4: Significant Changes

Significant changes in the external context have a noticeable impact on the organization. Major adjustments in strategy and operations are needed to align with new realities.

Level 5: Major Disruptions and Transformation

The external context is characterized by major disruptions or radical transformations. The organization must reinvent itself, adopt innovative approaches, and be agile to successfully navigate this constantly evolving environment.

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	Criteria	E(A)	E(B)	E(C)	E(D)
1	Frequency of External Trend Analyses	1	1	1	1
2	Quantifying the complexity of the risks associated with changes in the external environment	1	1	1	1
3	inter-functional collaboration to ensure a thorough understanding of external impacts	1	1	1	1
4	Adoption of Data Analysis Technologies to Monitor External Developments	1	1	1	1
5	the ability of internal audit to adjust its plan in response to changes in the external environment	1	2	2	2
6	Relevance of Audit Procedures to External Changes	1	2	2	2
	Total	6	8	8	8
	Best possible score	30	30	30	30
	Efficiency rate	20%	27%	27%	27%
	result	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 2 : Low (10% ≥ Score ≤ 40%)	Level 2 : Low (10% ≥ Score ≤ 40%)

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"Analysis of External Context Evolution in Internal Audit: Evaluation of Practices in Public Institutions A, B, C, and D" / (Source: prepared by the authors)

The main conclusion of this study highlights that the effectiveness of internal audit in the four institutions is primarily situated between levels two and three. This implies that effectiveness is generally categorized as low or moderate, with 24 occurrences at the low level and 20 occurrences at the moderate level. The analysis of these results suggests that substantial effort is still needed to improve the relevance of these indicators and, consequently, to enhance the overall effectiveness of internal audit. For Institution A, most indicators show a low score, except for one indicator that is at a moderate level (Level 3: Moderate Objectivity).

5. Conclusion

In this article, we undertook an evaluation of the effectiveness of internal audit within four institutions, namely A, B, C, and D, all operating in the context of Morocco. Based on existing literature and professional practices, we initially identified the components considered critical to the effectiveness of internal audit.

Our literature review revealed a lack of consensus on the components of internal audit effectiveness. However, we identified two categories of factors: internal and external. The methodology we chose remains appropriate for practitioners when assessing the quality of their internal audit service. It is essential to note that this approach shares the same objectives as the Internal Audit Maturity Matrix (IM-C) and the Internal Audit Ambition Model, provided that the indicators and evaluation criteria are selected according to the specific objectives and context of the organization.

It is important to highlight that our study has certain limitations, largely related to the qualitative approach chosen. This methodology can introduce a degree of subjectivity during the data collection and analysis, particularly regarding the relevance of the indicators, the method of evaluating these indicators, and the reliability of the responses obtained during the interviews.

Another limitation of our study lies in its restriction to only four public institutions, whereas Morocco has more than seven hundred public institutions and enterprises. Future research should encompass a larger sample to gain a more comprehensive understanding of the effectiveness of internal audit in the sector of Public Institutions and Enterprises (EEP) in Morocco.

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