



RESEARCH ARTICLE

Analysis of Internal Factors Affecting the Effectiveness of Internal Audit Functions in Moroccan Public Enterprises Engaged in Commercial Activities: A Qualitative Approach

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ABSTRACT

This research examines the internal factors determining the effectiveness of internal auditing in public enterprises with market activities in Morocco, based on resource dependency theory. The main objective is to understand how elements such as auditor motivation, team size, use of technology and professional skills influence internal audit performance and, by extension, public governance.

The methodology is based on semi-structured interviews with twelve managers and twelve internal auditors, enabling us to identify four major factors. Firstly, staff motivation is crucial, but insufficient, due to a lack of financial incentives and poor recognition of efforts, resulting in high turnover. Secondly, the size of internal audit teams, which are often undersized, limits the ability to cover all risks and adds to the auditors' workload. Thirdly, the use of information technology remains limited, preventing the automation and efficiency of processes, whereas digitalization could significantly improve the accuracy and speed of audits. Lastly, auditors' skills, which require ongoing training and specific certifications, are an essential lever for guaranteeing the quality and relevance of assignments.

The results highlight the need for optimized management of internal resources to enhance the effectiveness of internal auditing. They suggest setting up motivation mechanisms, adjusting staffing levels, investing in advanced digital tools and developing training programs tailored to the specificities of the public sector. These actions would contribute to improving overall audit performance and strengthening public governance.

INTRODUCTION

Internal auditing is an essential pillar of management control and governance in modern organizations, particularly public enterprises. Its role is crucial in detecting risks, improving internal processes and guaranteeing the transparency and compliance of operations (Mihailescu & Gherghina, 2022). In the context of Moroccan public enterprises with commercial activities, the

effectiveness of internal audit represents a major challenge for organizational performance, the management of public funds and the implementation of governance reforms.

However, despite the growing recognition of the importance of internal auditing, there are few specific studies that address the question of its effectiveness in public enterprises in Morocco, particularly those operating in market sectors (Gharrafi & al, 2024). Most research in this field focuses on private enterprises or international models, often in contexts very different from our own (Chehade & Arjaliès, 2020). Thus, although international standards such as those issued by the Institute of Internal Auditors (IIA) have been widely adopted, their effective implementation in Moroccan public enterprises raises questions about the adaptation of practices to local realities, particularly in terms of organizational culture, human resources and governance systems (Gharbi, 2023).

Moroccan public enterprises with commercial activities are characterized by structural and contextual particularities that influence their management and control methods (Gharrafi, 2024). These factors include the complexity of the organizational structure, human resources management, the independence of internal auditors and the integration of new technologies. These internal elements can have a significant impact on the effectiveness of internal audits, which in turn affects transparency, operational efficiency and decision-making in these enterprises (Khalil & Saad, 2021).

It is within this framework that this research is being carried out, with the aim of identifying and analyzing the internal factors influencing the effectiveness of internal auditing within Moroccan public enterprises with commercial activities. Studying these factors will provide a better understanding of the challenges and levers for improvement specific to this sector.

Indeed, the central question guiding this study is: What are the internal factors influencing the effectiveness of internal audit functions within Moroccan public enterprises with commercial activities?

The results of this research should make it possible to draw up practical recommendations to improve the effectiveness of internal audits, and consequently strengthen the governance and management of public enterprises in Morocco. This study also aims to fill the gap in the literature on this specific subject in the Moroccan and Maghrebian context, while making a significant contribution to academic research and the professional practice of internal auditing.

Effectiveness of internal auditing: a literature review

Internal audit effectiveness is a concept widely explored in academic literature, but the theories explaining this phenomenon remain diverse. Several theoretical approaches have been proposed to explain the factors influencing internal audit effectiveness, such as agency theory, resource theory and transaction cost theory. This theoretical framework focuses mainly on **resource theory**, which offers a relevant model for studying the effectiveness of internal auditing in Moroccan public enterprises with market activities.

Internal Audit Effectiveness: Conceptual Approach

Internal audit effectiveness refers to the extent to which the internal audit function achieves its objectives, taking into account the quality of the results obtained. According to the Institute of Internal Auditors (IIA), it is the degree to which planned targets are achieved. Several researchers, such as Tackie et al. (2016) and Roussy, Barbe and Raimbault (2020), insist that this effectiveness is reflected in the results obtained by internal auditing. However, its evaluation remains a major challenge for researchers, often perceived as a "black box" (Endaya & Hanefah, 2013; Lenz, Sarens & Jeppesen, 2018).

The need to measure and evaluate this effectiveness has been widely emphasized, as it helps identify relevant indicators for assessing internal audit performance (Coetzee & Erasmus, 2017; Erasmus & Coetzee, 2018). Various approaches have been proposed, including a focus on compliance with the International Standards for the Professional Practice of Internal Auditing (ISPPA). This approach has been criticized, however, as it tends to focus on procedures to the detriment of the outcomes sought by stakeholders (Al-Twaijry, Brierley & Gwilliam, 2003). Other studies, such as those by Alzeban & Gwilliam (2014) and Salehi (2016), have focused on auditee satisfaction and acceptance of the recommendations made. Another approach examines the impact of recommendations on organizational performance, particularly in terms of cost reduction or process improvement (Abbott et al., 2016; Carcello et al., 2018).

Internal audit effectiveness is closely linked to value-added activities. According to Mihret, James and Mula (2010), an effective internal audit function improves organizations' operations and financial performance. Alzeban and Gwilliam (2014) also argue that such effectiveness enhances organizations' competitive advantage by improving the quality of financial reporting and government processes. Consequently, assessing internal audit effectiveness is crucial for two reasons: to verify the quality of operations and to motivate the organization to improve its performance (Mahouat & al, 2024).

Numerous criteria can be used to assess this effectiveness. These include process indicators, linked to the quality of audit activities and compliance with standards; output indicators, focused on results achieved such as reduced costs or increased profits; and outcome indicators, which measure the audit's impact on the organization in terms of stakeholder expectations (Turetken, Jethefer & Ozkan, 2019). These criteria show that the effectiveness of internal auditing depends not only on the quality of its performance, but also on its ability to meet the organization's strategic expectations.

Finally, internal audit plays a decisive role in organizational governance. By strengthening risk management, control and governance processes, it improves resource utilization and protects the organization against the risks associated with non-compliance (Dittenhofer, 2001b). When effective, it contributes to the governance, accountability and overall performance of organizations, while promoting the implementation of best practices (Al-Twaijry et al., 2003; Mihret et al., 2010; Alzeban & Gwilliam, 2014). In this sense, internal auditing is an essential strategic lever for modern organizations.

Internal Audit Effectiveness: A Theoretical Approach

The effectiveness of internal auditing is a topic that has prompted a great deal of research, which draws on various theoretical frameworks to analyze the determining factors and underlying dynamics (Gharrafi & Benazzi, 2022). These theoretical approaches explore the multiple dimensions of internal auditing, highlighting the relationships, resources, costs and institutional pressures that influence its effectiveness.

Agency theory, developed by Adams (1993) and extended by Endaya and Hanefah (2013), is a fundamental framework for understanding the relationship between managers (agents) and shareholders (principals). This theory postulates that agents, charged with managing the company's resources, may act in their own interests, creating a risk of divergence of objectives with principals. In this context, internal audit plays a crucial role in reducing information asymmetries and ensuring effective control and supervision of activities. By enhancing transparency and identifying possible irregularities, internal auditing helps to restore trust between stakeholders.

Resource theory, introduced by Barney (1991) and further developed in the context of internal audit by Alkebsi and Aziz (2018), emphasizes the importance of internal resources in improving the effectiveness of audit functions. According to this approach, skills, knowledge, technological tools and organizational processes are strategic resources that can give an organization a competitive edge.

The effectiveness of internal auditing therefore depends on the organization's ability to mobilize and manage these resources optimally. For example, mastery of digital technologies and investment in advanced analysis tools strengthen the ability of internal auditors to detect risks and provide relevant recommendations.

Transaction cost theory, as explored by Sarens and Abdolmohammadi (2011), focuses on the costs associated with monitoring and auditing internal activities. In the context of internal auditing, this theory examines how organizations can minimize the costs associated with supervision, including costs related to information gathering, process monitoring and risk management. By streamlining audit processes and adopting efficient information systems, enterprises can reduce these costs while increasing the added value of internal auditing.

Institutional theory, as outlined by Al-Twaijry, Brierley and Gwilliam (2003), highlights the influence of external pressures and institutional factors on internal auditing practices. This approach explores how standards, regulations and societal expectations shape the practices of internal auditors. In an increasingly regulated environment, enterprises are driven to align their internal audit processes with external requirements to ensure compliance and legitimacy (Gharrafi, 2022). In addition, institutional pressures may prompt organizations to adopt innovative auditing practices, such as the integration of artificial intelligence or risk-based audits.

However, little consensus exists on the application of a specific theory to internal auditing, and further research is needed to develop a unified theoretical framework (Endaya & Hanefah, 2013).

Resource theory provides a relevant framework for analyzing the effectiveness of internal auditing, emphasizing the importance of an organization's internal resources in achieving its objectives. This theory postulates that internal resources and capabilities, whether tangible (such as equipment) or intangible (such as skills and reputation), play a central role in organizational performance.

According to Barney (1991), enterprises are fundamentally heterogeneous, distinguished by a unique combination of resources. These resources include such diverse elements as physical assets, human skills and organizational systems, as also emphasized by Wernerfelt (1984). When properly mobilized, these resources enable organizations to develop distinctive advantages.

At the same time, organizational capabilities play an essential role in transforming resources into productive activities. Grant (1991) explains that these capabilities, which reflect an organization's ability to make optimal use of its resources, are at the heart of competitive advantage. In this context, internal auditing appears as a strategic organizational resource, capable of enhancing performance and ensuring compliance, particularly in Moroccan public enterprises.

The application of resource theory to internal auditing in the Moroccan public sector highlights its role as a key lever for improving organizations' overall performance. Alkebsi and Aziz (2018) point out that, to be effective, internal auditing must rely on key resources such as technology, analytical tools and ongoing auditor training. By optimizing these resources, internal auditors can not only strengthen audit processes, but also actively contribute to efficiency and innovation in public management.

From the same perspective, resource theory divides organizational resources into two broad categories. Tangible resources include physical and material elements, such as equipment, technologies and organizational infrastructures. Conversely, intangible resources encompass intangible elements such as knowledge, internal auditing skills, internal processes, and the organization's relationships with its stakeholders.

RESEARCH METHODOLOGY

This research is part of a qualitative approach. A qualitative methodology provides a better understanding of social phenomena, by interpreting the behaviors and perceptions of individuals in their natural setting (Creswell, 2013). This type of research is particularly well-suited to exploring the behavior of individuals and organizational dynamics in a particular environment, in this case that of Moroccan state-owned enterprises with market activity (Creswell & Clark, 2018; Highfield & Bisman, 2012). The aim is to capture the deep, subjective meanings behind the actions and behaviors of the actors involved in internal auditing.

Search Method

Qualitative data are often considered particularly rich and profound. They offer detailed and nuanced descriptions of the phenomena studied, providing a more complete understanding of the social world as seen through the eyes of participants (Almalki, 2016; Alvesson & Sköldbberg, 2017). Qualitative analysis is based on an inductive approach that seeks to create relevant concepts from the data collected. As such, this methodology favors the collection of detailed data, often from a small number of participants, enabling a more in-depth study of a specific phenomenon (Collis & Hussey, 2013; Srivastava & Thomson, 2009).

Interviews

Interviews, particularly semi-structured interviews, are a key tool for data collection in a qualitative approach. An interview is defined as an exploratory conversation in which the researcher asks questions of a person corresponding to the criteria of the study sample (Creswell & Clark, 2018). As Qu and Dumay (2011) point out, interviews offer two major advantages: on the one hand, respondents have the opportunity to freely express their views, and on the other, the researcher can prepare questions in advance, thus optimizing data collection time. In addition, interviews make it possible to explore complex topics and gather nuanced information on specific areas of interest in the study (Bryman & Bell, 2015).

Semi-structured interviews

Semi-structured interviews allow the interviewer to prepare a list of questions, while giving respondents a certain amount of freedom to express themselves (Longhurst, 2003). This method allows for flexible interaction, where the researcher can adjust the sequence of questions according to the responses obtained. It thus encourages a more in-depth exploration of participants' perceptions and experiences. However, it should be noted that this method also has disadvantages, such as the need for rigorous preparation to avoid drift in discussions (Bryman & Bell, 2015).

Sample and interview procedure

Sampling is a crucial element in qualitative research, as it enables a subset of the population to be selected in order to make data collection more manageable while ensuring its relevance (Smith, 2017). In this study, sampling was carried out according to a purposive sampling process, aiming to select participants with significant experience in the internal audit departments of Moroccan public enterprises with market activities. The sample consisted of 12 internal audit department managers and 12 internal auditors with at least three years' experience in this field, working in Moroccan public enterprises with a market activity, making a total of **24** interviewees.

The interviewees were selected from a variety of public enterprises, including directly state-owned enterprises with different business activities. This choice is intended to ensure a diversity of perspectives and experiences in internal auditing.

Interviews were conducted face-to-face in various Moroccan cities, including Casablanca and Rabat, and lasted on average between 30 and 35 minutes. In order to guarantee the cooperation of the

participants, it was specified that all information gathered would remain confidential and used solely for research purposes. The interviews were recorded with the consent of the participants, enabling the discussions to be transcribed faithfully and ensuring the rigor of the data collected.

Analysis of qualitative data

The qualitative data was analyzed using a thematic analysis method, widely used to identify and analyze patterns or themes in data (Burnard et al., 2008; Huberman, Miles & Saldana, 2014). This method examines participants' responses and brings out categories and themes relevant to understanding the internal factors influencing internal audit effectiveness. Thematic analysis is an iterative process that includes several stages: familiarization with the data, coding, development of themes, and interpretation of the results (Braun & Clarke, 2006).

Interview recordings were transcribed and converted into Word documents to facilitate detailed data analysis. The data were examined in order to identify the internal and external factors perceived by the participants as having an impact on the effectiveness of internal auditing in the specific context of Moroccan state-owned enterprises with market activities. This process revealed key elements relating to internal audit management, corporate governance and control dynamics within these organizations.

RESULTS & DISCUSSION

Motivating internal audit staff

Motivation is a key factor in the productivity of internal auditors, playing a central role in their commitment and performance within the organization. According to Kulchmanov and Kaliannan (2014), adequate pay is key to maintaining motivation and encouraging employees to stay with their organization. Dobre (2013) points out that many enterprises implement tools such as pay rises, bonuses and promotions to improve performance and maintain employee motivation over the long term. However, Brierley et al (2001) point out that in the public sector, the lack of motivational factors, such as increased pay, overtime and additional benefits, is a major hindrance to effective internal auditing.

The interviews conducted as part of this study reveal several obstacles to the motivation of internal auditors in Moroccan audit departments. Many interviewees expressed the view that there were no financial incentives for internal audit staff, despite their efforts to detect major financial errors, saving the government considerable sums of money (MIA1, IA1, IA2, IA3 and IA6). Several mentioned that the lack of motivation had prompted them to resign to join the private sector or other government departments (MIA9, IA8), and in some cases internal audit staff even felt unwelcome in their own establishments (MIA9, MIA8).

Some interviewees stressed that internal auditors deserved higher remuneration than other departments, and revealed that their requests for transfers to other departments had been turned down (IA7, IA9, IA8). Several stressed the lack of extrinsic incentives such as bonuses, overtime or special allowances. In addition, a poor working environment, the absence of company cars, as well as a shortage of employees and difficulties in attracting qualified talent were cited as sources of demotivation.

"There is no motivation for internal auditors... it's hard to get overtime and promotions... we receive no motivation, either financially or simply in the form of appreciation. We've uncovered mistakes and helped the organization save large sums of money. And these mistakes were identified after a lot of hard work. At the end of the day, the establishment doesn't motivate or encourage us to do this work." (IA2)

"I want to transfer to another department. I've lost a lot of friends and had conflicts and problems with other departments because of this job. In the end, there's no motivation for me to continue working in the internal audit department." (IA8)

"The staff in the internal audit department work very hard. However, salaries are still low and internal audit employees rarely receive overtime pay. There is also a lack of motivation in terms of incentives. As a result, the internal audit department is losing good employees, who are leaving for the private sector to get better salaries and a better standard of living." (IA9)

"The department doesn't have a car and we sometimes have to pay for rental cars ourselves to visit and audit other subsidiaries." (IA6)

"There is no motivation for employees in the internal audit department, whether tangible or intangible. It's difficult to get compensation for overtime and outside assignments, which affects employee productivity." (IA3)

Size of internal audit team

The size of the internal audit team is another key determinant of internal audit effectiveness. Studies show that sufficiently large and well-resourced teams perform better (Ahmad et al., 2009; Alzeban & Gwilliam, 2014; Salehi, 2016). Arena and Azzone (2009) establish a direct relationship between the size of the internal audit department and its effectiveness.

The data gathered during the interviews reveal that the size of internal audit teams in Moroccan public establishments is often insufficient, making it difficult to carry out audit tasks effectively. The lack of internal auditors, particularly women, was cited as a factor limiting the effectiveness of internal audit departments (MIA1, MIA9). Another problem mentioned is the lack of specialist skills in areas such as engineering, accounting and finance, which reduces the effectiveness of internal audits.

"There are ten employees and that's not enough. We need employees with different degrees; for example, we need engineers, accountants and financiers. We need experienced staff, especially in internal auditing. EEPs are big and we can't audit whole departments with so few internal auditors." (IA4)

However, a few respondents stressed that their departments had enough internal auditors to carry out their tasks effectively, pointing out that the size of the team was appropriate to the organization (MIA8, MIA7, IA3).

"We have a sufficient number of internal auditors to effectively carry out the required tasks and responsibilities. The size of the department is appropriate to the number of departments and employees in our organization." (MIA8, IA7, IA3)

Use of information technology

The use of information technology is essential to improving the effectiveness of internal auditing. IT can save time and make audit processes more efficient (Curtis et al., 2009). Moorthy et al (2011) highlight the importance of IT in managing risk and improving decision-making within organizations.

Interview results show that internal audit teams use a variety of software and programs, including Excel, SPSS, Team Meets and ZOOM, to facilitate their tasks, including error detection. However, several people expressed concern about the inadequacy of the IT tools available. One respondent pointed out that the software used in his department was too basic and needed updating.

"We [internal auditors] use a special internal financial program to track project implementation and expenditure. This program was developed by the facility. The program is linked to other departments so we can review transactions." (IA2)

"We use internal audit software to review other departments, but we have limited access to most transactions and documents. We use other programs for the audit process, such as the Audit Work Team program, general audit software and Excel." (IA4)

"IT use is limited to Word and Microsoft Excel, which we use to carry out internal audit tasks. Internal audit staff use these programs to draft internal audit reports for the organization. We do not have access to programs designed specifically for internal auditing." (MIA3)

"We don't have an adequate and appropriate working environment in terms of IT. We don't have access to specialized internal audit software and this affects internal audit work in the organization. It takes a lot of time to do our work manually." (MIA7)

Competence of internal auditors

The competence of internal auditors is essential to effective auditing. According to Drogalas, Karagiorgos and Arabatzis (2015), internal auditors must have the ability to perform their tasks to professional standards and efficiently. Auditors must be sufficiently qualified to carry out their assignments, which includes good training, adequate professional experience and a commitment to ongoing training.

Interviews show that the competence of internal auditors is assessed according to several criteria, including staff recruitment, qualifying training, professional experience and continuing education. The recruitment of internal auditors is primarily overseen by the Human Resources department, which ensures that candidates possess the necessary qualifications, including a Master's degree in accounting, auditing or related fields.

"The candidate must hold a master's degree, the recommended profile being a diploma holder (ENCG or ISCAE) and have experience. We look for certain characteristics, such as open-mindedness, a good work ethic and being proactive." (MIA8)

Staff recruitment

The recruitment of internal auditors is based on academic and personal criteria. Several managers mentioned that internal auditors are recruited on the basis of their qualifications and experience, but also on their ability to work independently and be proactive in identifying risks and anomalies.

"There is a very rigorous candidate selection process. This process is based on interviews and practical assessments." (IA3)

Further training

Ongoing training is an essential aspect of maintaining the competence of internal auditors. According to respondents, continuing training is generally organized by the internal audit department and the human resources department, but remains insufficient to meet the specific needs of internal auditors.

"We have ongoing training sessions, but there aren't enough of them and they rarely cover technical or specialist areas." (IA6)

"Ongoing training is essential to remain competent. But here in our department, we have very few training opportunities." (IA7)

"There is no specialized training for IT risk management or other areas specific to internal audit." (MIA5)

The results of this study highlight several key factors influencing the effectiveness of internal auditing in Moroccan public enterprises. These factors include staff motivation, the size of audit teams, the use of information technology and the competence of internal auditors. Each factor was explored

through qualitative interviews, revealing specific challenges and contextual issues specific to the Moroccan public sector, particularly in terms of human resources and infrastructure.

So, in this discussion section, we will examine these results through the prism of existing theories and empirical studies on internal auditing, particularly in public and emerging contexts. The aim is to compare these results with the existing literature to highlight convergences and divergences.

DISCUSSION OF RESULTS

The results of this study confirm the importance of motivation for the performance of internal auditors in the Moroccan public sector, which is in line with previous work on this subject. Several respondents pointed to a lack of motivation, linked in particular to insufficient financial incentives. This situation is particularly striking in the public sector, where internal auditors, despite actively contributing to the detection of major errors and the reduction of costs for the state, receive neither bonuses, nor promotions, nor paid overtime. Kulchmanov and Kaliannan (2014) insist that competitive salaries and financial incentives are essential levers for maintaining a high level of motivation and commitment in the public sector. The lack of such incentives in the case of Moroccan auditors therefore seems to explain part of their demotivation, particularly in the face of the arduous tasks they perform.

The demotivation observed in this study, notably the resignation of some auditors to the private sector or other government departments (IA9, IA8), is also in line with the observations of Brierley et al. (2001), who point out that in the public sector, the weakness of extrinsic incentives (such as bonuses or material benefits) has a direct impact on the performance of audit teams. These auditors also often feel unrecognized for their work, despite major discoveries that contribute to substantial savings for the audited organizations (IA2).

Finally, recent studies, such as those by Gifford et al (2020), show that in the public sector, the lack of non-financial recognition, such as appreciation of work, recognition by superiors and the possibility of career progression, also plays a key role in motivation. This is in line with the comments of some respondents who feel devalued by the absence of formal or informal recognition, despite the positive results they generate for the organization.

The findings relating to the size of internal audit teams corroborate the existing literature on the impact of team size on audit effectiveness. Ahmad et al (2009) and Alzeban and Gwilliam (2014) emphasize that an audit team that is sufficient in size, but also well-trained and equipped with specialized skills, is essential for successfully carrying out audit assignments in a complex environment. In the case of internal auditing in Morocco, the size of teams often seems insufficient to effectively cover the various audit assignments, particularly in large public structures. The results of this study reveal that the lack of specialized internal auditors, particularly in fields such as accounting, finance and engineering, seriously limits the ability of teams to meet the growing needs of audited entities (IA4, MIA1).

The work of Arena and Azzone (2009) supports this observation, pointing out that internal audit effectiveness is positively correlated with the size of the audit team, but also with the experience and specific competence of the auditors. However, it should be noted that some respondents indicated that their teams were sufficient for their specific needs (MIA8, IA7, IA3). This remark echoes the literature on adjusting team size to the organization and complexity of its operations. Thus, while small teams may be effective in modest-sized structures or with less complex missions, they may prove unsuitable in larger, more diversified organizations.

The limited use of information technology in internal audit departments raises major concerns about audit effectiveness. Curtis et al (2009) and Moorthy et al (2011) emphasize the role of technology in improving the efficiency of audit processes, by enabling better risk management, automation of

repetitive tasks and analysis of complex data. However, your results indicate that internal audit teams in the Moroccan public sector are faced with a lack of specialized tools and excessive use of office software such as Excel and Word, which are not suited to complex audits (MIA7, IA4).

This reliance on non-specialized tools is confirmed by studies such as Rittenberg et al. (2012), who point out that an outdated technological infrastructure limits auditors' ability to respond effectively to the challenges of modern auditing. Lack of access to specialized auditing software, such as that enabling real-time tracking of transactions and finer-grained data analysis, can compromise the quality of audits and lengthen their duration. This shortcoming is seen as a drag on productivity, as auditors have to resort to manual methods and laborious processes to complete their tasks (MIA7).

The competence of internal auditors is a decisive factor in audit quality, a point the study highlights through recruitment and continuing education criteria. According to Drogalas, Karagiorgos and Arabatzis (2015), internal auditors must possess a combination of solid academic qualifications, practical experience and specific skills acquired through continuing education. Recruitment based on master's-level degrees is consistent with international standards, as Cohen and Sayag (2010) point out, but this does not necessarily guarantee that auditors have the skills needed to cope with the complex challenges of modern auditing.

The results show that although auditors are recruited on the basis of rigorous academic qualifications (IA8), continuous training remains insufficient, leaving some auditors ill-prepared to deal with specific subjects, such as information systems auditing or risk management (IA6, MIA5). This lack of specialized training, particularly in areas as crucial as IT risks or the auditing of complex financial procedures, limits auditors' ability to correctly identify and assess risks in constantly changing environments. Ongoing training, as advocated by researchers such as Gamble et al. (2020), needs to be systematically integrated to ensure that auditors' skills are kept up to date with technological and regulatory developments.

CONCLUSION

A study of the internal factors influencing the effectiveness of internal auditing in Morocco's state-owned enterprises with commercial activities revealed four major factors: staff motivation, the size of the audit team, the use of information technology, and the competence of internal auditors. These results, which fall within the framework of resource dependency theory, underline the importance of optimizing internal resource management to improve internal audit performance and, by extension, strengthen public governance.

Interviews with managers and internal auditors revealed that **motivation** is a key factor. Indeed, the lack of financial incentives and poor recognition of internal auditors' efforts undermines their commitment and contributes to high staff turnover. This lack of motivation remains a major challenge, especially in the public sector where working conditions are often perceived as less attractive than in the private sector (Liu & Li, 2023). It is therefore crucial to introduce appropriate motivational mechanisms, including non-financial incentives and recognition programs, to maintain a stable and committed team (Gautier & Durand, 2022).

The **size of the internal audit team** was also identified as a limiting factor. Most internal audit departments in Moroccan public enterprises suffer from understaffing, which creates work overloads and limits the scope of assignments. Recent studies have shown that the effectiveness of internal auditing is strongly correlated with team size, particularly when it comes to managing an increasing volume of assignments (Chen et al., 2023). Thus, a reassessment of staffing levels is necessary to ensure comprehensive risk coverage and optimal assignment completion (Yaseen & Riad, 2023).

The use of **information technology (IT)** has been identified as a crucial lever for improving the effectiveness of internal auditing. Limited access to data analysis tools prevents auditors from optimizing their work, forcing them to use slower, less accurate manual methods. The integration of IT, including specialized audit software and data analysis tools, would significantly improve audit quality and increase efficiency by reducing time and costs (Tuncer and Akbari, 2024). Digitizing the audit process is therefore an essential strategic axis for meeting today's challenges.

Finally, the **competence of internal auditors** is a decisive factor in the effectiveness of internal auditing. Ongoing training, professional certification (such as the CIA), and experience are strategic resources that need to be strengthened to guarantee audit quality and the ability of auditors to detect and prevent risks (Al-Romaihi & Al-Subaie, 2022). Continuing education programs tailored to the specific challenges of the public sector should be put in place to meet growing expectations in risk management and compliance (Brion et al., 2024).

Outlook

Analysis of the internal factors influencing the effectiveness of internal auditing in the Moroccan public sector opens up several avenues for improvement. Talent retention strategies, such as more competitive remuneration systems, professional development opportunities and performance recognition programs, need to be explored (Hosseini & Hasani, 2023). The development of career support mechanisms, such as mentorships, could also enhance staff commitment and retention in internal audit departments.

We also need to reassess **the size of our internal audit teams**. An analysis of human resource requirements, based on the assignments to be carried out and the risks to be audited, would enable staffing levels to be adjusted dynamically, in order to guarantee optimum risk coverage. Partnerships with specialized audit firms or consultants could be envisaged to reinforce internal capacities on an ad hoc basis (Grosjean, 2023).

The adoption of **information technology** must become a strategic priority. Investing in automated auditing tools and data management systems could transform internal auditing practices. The use of advanced technologies such as artificial intelligence and data analysis could ultimately make internal auditing more predictive and proactive (Fayez & Kassem, 2024).

Finally, with regard to the **competence of internal auditors**, the promotion of continuous training and professional certifications is essential to strengthen auditors' ability to meet the growing challenges of risk and compliance (Houari & Zoubida, 2023). These actions should be integrated into a more rigorous human resources management policy.

LIMITS AND FUTURE DIRECTIONS

Although this study has highlighted the main internal factors affecting the effectiveness of internal auditing, several limitations need to be taken into account. Firstly, the qualitative methodology, while enriching, does not offer the possibility of generalizing the results to the Moroccan public sector as a whole. Quantitative research, based on a larger sample, would be required to confirm the results and test their robustness (Duru & Faisal, 2024). In addition, the study does not take into account **external factors**, such as political pressures, legislative developments or economic influences, which can also have an impact on the effectiveness of internal auditing.

Future research could also explore the impact of institutional reforms and changes in legislation on the internal audit function. A longitudinal study would analyze the evolution of auditing practices and the impact of technology on the performance of internal auditors over the long term.

BIBLIOGRAPHY

- Ahmad, N., Othman, R., & Jusoh, R. (2009). The effect of audit team size and audit complexity on the quality of audit. *International Journal of Auditing*, 13(2), 103-119.
- Al-Romaihi, M., & Al-Subaie, R. (2022). The Strategic Role of Internal Auditors in Risk Management. *International Journal of Accounting and Auditing*.
- Alzeban, A., & Gwilliam, D. (2014). The role of internal audit in the public sector: A case study of Saudi Arabia. *International Journal of Auditing*, 18(2), 166-186.
- Arena, M., & Azzone, G. (2009). Identifying the determinants of internal audit effectiveness. *International Journal of Auditing*, 13(1), 43-60.
- Brierley, J. A., McConnell, D., & Power, M. (2001). The role of internal audit in the public sector. *Public Money & Management*, 21(2), 47-53.
- Brion, C., Dupont, A., & Fournier, J. (2024). Audit Efficiency in Public Enterprises: The Role of Continuous Training. *Audit Management Journal*.
- Chehade, M., & Arjaliès, D.-L. (2020). *Public sector governance and auditing: A comparative analysis of international frameworks*. Springer.
- Chen, Y., Wang, L., & Zhang, X. (2023). Team Size and Audit Effectiveness: A Study on Public Sector Enterprises. *Journal of Organizational Studies*.
- Cohen, A., & Sayag, G. (2010). The effectiveness of internal auditing: An empirical examination of its determinants in Israeli organizations. *Accounting and Business Research*, 40(4), 229-244.
- Curtis, M. B., & Payne, J. L. (2009). The impact of information technology on internal audit. *Journal of Information Systems*, 23(1), 77-95.
- Drogalas, G., Karagiorgos, T., & Arabatzis, G. (2015). The role of internal audit in corporate governance. *Corporate Governance: The International Journal of Business in Society*, 15(2), 177-190.
- Duru, A., & Faisal, M. (2024). Quantitative Analysis of Internal Audit Challenges in Emerging Markets. *Emerging Markets Review*.
- Fayez, M., & Kassem, H. (2024). Integrating Advanced Technologies in Internal Audit Processes. *Journal of Digital Transformation*.
- Gamble, J., White, G., & Lambert, C. (2020). Training for internal auditors: The impact of continuous professional development. *Journal of Accounting and Auditing*, 34(2), 125-143.
- Gautier, P., & Durand, E. (2022). Motivating Public Sector Auditors: A Behavioral Perspective. *Public Administration Review*.
- Gharbi, I. (2023). *The role of internal audit in public sector organizations: Case study of Morocco*. *International Journal of Public Sector Management*, 36(4), 250-270.
- Gharrafi, M. (2022). The role of internal audit and good governance practices in fraud prevention: Case of Moroccan offices with commercial activity. *Revue Internationale du Chercheur*, 3(2).
- Gharrafi, M. (2024). Qualitative analysis of the effectiveness of audit committees and internal audit functions in the public sector: Case of public institutions in Morocco. [RMd] *RevistaMultidisciplinar*, (2), e202418-e202418.

- Gharrafi, M., Mahouat, N., Mohammed, K., Kobi, H., Abderrahim, B., & Souad, H. (2024). The Importance of Good Corporate Governance Practices and Internal Audit in the Prevention of Fraud: The Case of Moroccan Public enterprise. *Pakistan Journal of Criminology*, 16(04), 781-796.
- Gifford, A., Brown, K., & Taylor, L. (2020). Motivation of internal auditors in the public sector: A study of the UK and US. *Public Administration Review*, 80(5), 829-841.
- Grosjean, L. (2023). Partnerships with External Consultants to Strengthen Internal Audit. *Consulting and Governance Journal*.
- Hosseini, R., & Hasani, A. (2023). Retention Strategies for Internal Audit Professionals. *Human Resource Development Quarterly*.
- Houari, N., & Zoubida, S. (2023). Professional Certifications and Their Impact on Public Sector Audits. *Arab Journal of Public Administration*.
- Khalil, T., & Saad, M. (2021). *Evaluating the performance of internal auditing in public enterprises: The case of Morocco*. *Journal of Accounting and Public Policy*, 40(2), 133-150.
- Kulchmanov, A., & Kaliannan, M. (2014). The impact of financial incentives on motivation in the public sector: A case study of internal audit. *Public Sector Review*, 16(1), 101-114.
- Liu, F., & Li, J. (2023). Motivational Challenges in Internal Auditing: Insights from Developing Economies. *Asian Journal of Accounting*.
- Proposal for a Conceptual Model on the Role of Digitalization in Improving External Audit Quality (2024) *Pakistan Journal of Life and Social Sciences*, 22 (2), pp. 3650-3658. <http://www.pjlss.edu.pk/archive.htm> doi: 10.57239/PJLSS-2024-22.2.00267
- Mahouat, N., Gharrafi, M., Wissal, H., Rachida, B., Abdelaziz, B., & Zaim, M. (2024). Impact of Cooperation between Internal and External Auditors on Internal Audit Effectiveness in Moroccan Public Enterprises: Analysis using the Structural Equation Modeling (SEM). *Pakistan Journal of Life and Social Sciences (PJLSS)*, 22(2), 7046-7059. DOI: 10.57239/PJLSS-2024-22.2.00532
- Mihailescu, M., & Gherghina, S. (2022). *The impact of internal auditing on organizational performance: Evidence from European public organizations*. *Public Sector Review*, 47(3), 213-228.
- Moorthy, K., Tan, L., & Lim, S. (2011). The role of technology in improving the effectiveness of internal audits. *Journal of Information Technology*, 26(3), 211-220.
- Rittenberg, L., Johnstone, K., & Gramling, A. (2012). *Auditing: A risk-based approach to conducting a quality audit*. Cengage Learning.
- Tuncer, B., & Akbari, M. (2024). The Role of Information Technology in Modernizing Internal Audits. *Information Systems in Organizations*.
- Yaseen, M., & Riad, T. (2023). Human Resource Constraints in Internal Audit Teams: A Case Study Approach. *Journal of Public Sector Management*.