

## **Internal Auditing as a Catalyst for Banking Risk Management: A Contested Analysis of Algerian Public Banks (BNA, BADR, CPA)**

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### **ABSTRACT**

*This study aims to examine the role of the internal auditor in enhancing risk management within banks. It reviews the concept of internal auditing in the banking sector, highlighting its importance, objectives, and principles, and then explores the internal auditor's role in banking risk management. The study adopts a descriptive-analytical approach, gathering data from primary and secondary sources. A specially designed questionnaire, prepared in Spanish for this study, was distributed to the target population, consisting of 30 internal auditors from banks in Setif. Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) to test hypotheses and derive insights. The study reveals several key findings, most notably that internal auditors are aware of the significance of banking risk management in the studied institutions. However, the internal auditor's role does not involve directly identifying or measuring risks but rather focuses on providing consultations and recommendations to improve risk management practices. The study provides key recommendations to enhance the effectiveness of internal auditors in banks: banks should implement specialized training programs to improve auditors' expertise, senior management must prioritize internal auditing to strengthen its role within the institution, and auditors' independence should be reinforced to ensure they can perform their duties without limitations. These measures aim to optimize risk management and governance in the banking sector*

### **Introduction:**

The Algerian banking sector, dominated by state-owned institutions like Banque Nationale d'Algérie (BNA), Banque de l'Agriculture et du Développement Rural (BADR), and \*Caisse de Prêts aux Collectivités Locales (CPA), faces systemic risks exacerbated by economic volatility, non-performing loans (NPLs), and legacy governance structures. While global banks leverage internal auditing as a strategic tool for risk mitigation, Algerian public banks remain embroiled in debates over audit efficacy. Critics argue that internal auditing in these institutions is reduced to a procedural formality, stifled by bureaucratic inertia interference, while proponents highlight incremental reforms post-2010 Banking Law revisions. This study interrogates the controversial role of internal auditing in activating risk management systems within Algeria's public banks. It addresses the research question:

**How does internal audit enhance banking risk management effectiveness in the sample study?**

### 1.1. This question is explored through the following sub-questions:

1. What is the importance of internal audit in banks?
2. How do internal audit activities support risk management?
3. What role does the internal auditor play in banking risk management the sample stud?

### 1.2.Hypotheses:

1. Internal audit's importance in banks stems from its ability to assess and enhance the effectiveness of internal controls and risk management.
2. Internal audit activities contribute to risk management by developing audit plans focused on banking risks and by helping to establish strong control mechanisms.
3. The internal auditor significantly contributes to banking risk management within the studied sample by evaluating risk management effectiveness through collaboration and information sharing between the risk management and internal audit departments.

### 1.3.Study Objectives:

1. Define internal auditing, its objectives, types, and relevant international standards to understand its importance and procedures within banks.
2. Identify significant banking risks and explore the relationship between internal auditing and risk management.
3. Determine the internal auditor's role in enabling risk management and the stages of banking risk auditing at the bank level.

### 1.4.Study Tools and Sample

#### - Sample study :

The study sample consists of three public banks in the city of Setif, Algeria: BNA, BADR, and CPA.

#### - Study timeline : 2023.

### Research Design : A mixed-methods approach was adopted:

- Quantitative: A closed-ended questionnaire with 25 Likert-scale questions (1–5) distributed to 30 employees (10 per bank) from audit, risk management, and compliance teams.
- Qualitative: Semi-structured interviews with 5 senior auditors to contextualize statistical findings.

### 1.5.Questionnaire Structure

The questionnaire was divided into two parts as follows:

- **Part One:** Includes the **personal data** of the study sample, consisting of **8 items**.
- **Part Two:** Addresses the **role of internal audit in banking risk management** for Algerian banks located in **SETIF Province**. This part is subdivided into **three axes**:

1. **Axis One:** Focuses on **the standing of auditing within the institution** and the extent to which auditing standards (independence, objectivity, professional competence, audit planning, and audit quality) are applied by internal audit units in the banks. This axis consists of **12 items**.
2. **Axis Two:** Examines the **relationship between internal audit activities and risk management** as practiced by the audit units in the studied banks. This axis includes **12 items**.

**Axis Three:** Explores the **relationship between the role of the internal auditor in banking risk management** and their awareness of the mechanisms for implementing it. This axis contains 8 items.

#### **1.6. Limitations**

- Small sample size limits generalizability.
- Potential response bias due to fear of criticizing institutional practices.
- Lack of access to proprietary risk management data.

## **2. Previous Studies: Divergent Perspectives**

### **2.1. Algerian Literature:**

1. **Benamraoui (2020):**  
In *Risk Management in Algerian Banking: Illusion or Reality?*, Benamraoui critiques Algerian public banks for prioritizing regulatory compliance over proactive risk management. Using case studies of BNA and CPA, the author argues that internal audits focus excessively on transactional checks (e.g., loan documentation) while neglecting emerging risks like cybersecurity. The study attributes this to a rigid "compliance culture" ingrained by state ownership and outdated governance models.
2. **Boukari (2018):**  
Boukari's *The Politics of Banking Governance in Algeria* examines how political interference stifles audit autonomy in public banks. Through interviews with BADR auditors, the study reveals that audit recommendations are often overruled by ministerial directives, particularly in high-risk lending to state-owned enterprises. Boukari frames internal auditing as a "symbolic exercise" to appease regulators rather than drive risk mitigation.
3. **Central Bank of Algeria (2021):**  
The Annual Report on Banking Supervision praises reforms in BADR's internal audit framework, citing improved risk reporting and alignment with Basel III standards. However, independent analysts contest these findings, noting that the report relies on self-assessment data from banks rather than independent verification, potentially masking persistent gaps in audit effectiveness.
4. **Khelifi (2022):**  
In *Audit Autonomy in State-Owned Banks: A Mirage?*, Khelifi employs a mixed-methods approach to analyze audit independence in Algerian public banks. The study finds that 78% of auditors face pressure to modify reports to avoid political repercussions, particularly in cases involving non-performing loans. Khelifi concludes that Algeria's hierarchical governance structures inherently undermine audit objectivity.
5. **Algerian Audit Association (2022):**  
The Association's report, *State of Internal Auditing in Public Banks*, highlights systemic training deficits, with only 35% of auditors holding internationally recognized certifications

(e.g., CIA, CISA). The report links this skills gap to poor adoption of risk-based auditing tools, leaving banks ill-prepared for digital fraud and operational disruptions.

These studies collectively underscore a tension between Algeria's regulatory aspirations and on-ground realities. While reforms like Banking Law 10-05 and Circular 02/2020 aim to modernize auditing, political interference, compliance-centric mindsets, and skill shortages perpetuate ritualistic practices. Benamraoui and Boukari offer critical lenses, while the Central Bank's optimism contrasts sharply with independent analyses by Khelifi and the Audit Association. This divergence highlights the need for empirical, employee-level insights—as provided in the current study—to reconcile policy narratives with practitioner experiences.

Recent research highlights internal auditing's evolving role in addressing modern banking risks. The Institute of Internal Auditors (IIA, 2020) emphasizes that collaboration between internal audit and enterprise risk management (ERM) enhances strategic decision-making, particularly in banks adopting AI and big data analytics. A 2023 Deloitte study links audit effectiveness to cybersecurity preparedness, noting that banks using AI-driven audit tools detect fraud 40% faster than those relying on manual processes. Similarly, PwC's 2023 Global Risk Survey reveals that internal auditors in digitally mature banks prioritize ESG risks, such as climate-related financial disclosures, which are critical for regulatory compliance (e.g., EU's CSRD). However, Müller (2024) critiques the "audit lag" in emerging markets, where resource constraints and regulatory fragmentation hinder risk-based auditing. Meanwhile, the Basel Committee's 2022 guidance stresses that audit independence remains pivotal for mitigating operational risks in fintech-integrated banking systems, though political interference in state-owned banks often undermines objectivity. Collectively, these studies underscore internal auditing's growing focus on technology, ESG, and resilience, while flagging persistent gaps in emerging economies.

### **3. Theoretical Framework: Algerian Regulatory and Cultural Nuances**

#### **Regulatory Landscape**

1. Banking Law 10-05 (2005): Mandates internal control systems but lacks enforcement mechanisms for audit independence.
2. Circular 02/2020 (Central Bank): Requires banks to adopt risk-based auditing, yet implementation remains inconsistent.
3. State Ownership Dynamics: Public banks answer to the Ministry of Finance, creating conflicts between audit autonomy and political agendas (Boukari, 2018).

#### **4. Cultural and Structural Barriers**

- Hierarchical Governance: Subordinates rarely challenge superiors, undermining audit objectivity (Khelifi, 2022).
- Technological Lag: Manual processes dominate, limiting auditors' ability to detect real-time risks (e.g., fraud).

- Training Deficits: 65% of auditors lack certifications (CIA, CISA), per a 2022 Algerian Audit Association report.

## **5. Results and Discussion**

### **5.1 : Result of Questionnaire :**

#### **5.1.1 First: Internal Audit Procedures in Algerian Banks**

The audit methodology applied in banks encompasses all investigations and procedures aimed at verifying the credibility and accuracy of information within the institution, as well as evaluating the effectiveness of the internal control system in identifying, measuring, and activating risk management.

##### **1-The audit stages include:**

- Acquiring general knowledge about the institution's nature by researching all bank-related information through available documents and records.
- Defining audit objectives, such as evaluating the control system's effectiveness, improving risk management to reduce banking risks, enhancing the institution's value, ensuring financial statement reliability, and safeguarding assets.
- Identifying high-risk operations and assessing their significance.
- Developing a realistic and executable audit plan that aligns with the bank's operational scope, covers all activities, and accounts for technical developments and banking innovations. The plan must be approved by the audit committee.
- Executing the audit based on previously gathered information while adhering to time and scope constraints.

##### **Internal auditors may employ techniques such as:**

- Interviewing relevant personnel.
- Using statistical sampling and on-site observations.

##### **Audit execution involves three phases :**

1. Financial and statistical data auditing.
2. Operational process auditing.
3. Administrative auditing.

After completing the audit plan, the auditor can conclusively assess the control system's effectiveness, distinguishing strengths and weaknesses. This enables the auditor to propose solutions and advise senior management through a comprehensive final report. The report must adhere to internal audit standards (independence, objectivity, competence) and include:

- A transmittal document.
- Table of contents, introduction, and summary.
- Detailed findings and recommendations.
- Conclusion: Audit methodology, interventions, and appendices.

### **5.1.2. Analysis of Questionnaire Results**

Out of 45 distributed questionnaires, **30** were returned (66.7% response rate). Data analysis was conducted using SPSS (v.19) with the following tools:

- Cronbach's Alpha for reliability.
- Frequency distributions and percentages for demographic variables.
- Weighted mean, standard deviation.
- Pearson correlation coefficient.

#### **1. Reliability of the Study Tool**

**Table (1): Cronbach's Alpha Values for Each Axis of the Questionnaire**

| Axis                                                              | Number of Items | Cronbach's Alpha |
|-------------------------------------------------------------------|-----------------|------------------|
| Axis 1: Standing of Auditing in the Institution                   | 12              | 0.887            |
| Axis 2: Relationship Between Audit Activities and Risk Management | 12              | 0.902            |
| Axis 3: Role of Internal Auditors in Risk Management              | 8               | 0.955            |
| Total                                                             | 32              | 0.914            |

**Source: Prepared by researchers using SPSS outputs.**

The overall Cronbach's Alpha coefficient (0.914) indicates high reliability, acceptable for economic studies (threshold: 0.60).

### **2. Responses to Axis 1**

**Table (2): Responses to Axis 1 (Standing of Auditing in the Institution)**

| N  | Item                                                         | Weighted Mean | Standard Deviation | Response |
|----|--------------------------------------------------------------|---------------|--------------------|----------|
| 01 | Senior management intervenes in defining the auditor's scope | 2.60          | 0.675              | Agree    |
| 02 | Internal auditors independently review control systems       | 2.63          | 0.669              | Agree    |

|    |                                                                      |      |       |         |
|----|----------------------------------------------------------------------|------|-------|---------|
| 03 | Auditors evaluate processes using official documents                 | 2.60 | 0.675 | Agree   |
| 04 | Auditors maintain neutrality and integrity                           | 2.70 | 0.466 | Agree   |
| 05 | The audit department verifies operational risk management efficiency | 2.27 | 0.785 | Neutral |
| 06 | Audit activities are formally documented                             | 2.60 | 0.563 | Agree   |
| 07 | External audits enhance internal audit independence                  | 1.83 | 0.699 | Neutral |
| 08 | Audit committees review internal audit performance                   | 2.60 | 0.770 | Agree   |
| 09 | Advisory services provided by auditors are defined                   | 2.83 | 0.379 | Agree   |
| 10 | Audit reports comply with professional standards                     | 2.70 | 0.651 | Agree   |
| 11 | Auditor objectivity is verifiable by external reviewers              | 2.53 | 0.681 | Agree   |
| 12 | Auditors focus on significant errors identified by management        | 2.23 | 0.728 | Neutral |
|    | Total                                                                | 2,51 | 0,63  | Agree   |

Source :Prepared by researcher

Table ( 02) reveals that the **overall mean** of respondents' answers for this axis is **2.51**, with a **response trend of "Agree"**. This indicates that the study sample **agrees** that the internal audit profession in the studied banks is implemented in accordance with auditing standards. This is further supported by the **standard deviation of 0.63**, which falls within an acceptable level.Regarding the axis items:**Item 9** ("The advisory services provided by the internal auditor are clearly defined") received the **highest arithmetic mean of 2.83**, exceeding the overall mean (2.51), with a **standard deviation of 0.38** and a response trend of "**Agree**".**Item 12** ("The internal auditor focuses on significant errors identified by management") received the **lowest arithmetic mean of 2.23**, below the overall mean (2.51), with a **standard deviation of 0.72** and a response trend of "**Neutral**".

### 3. Responses to Axis 2

**Table (3): Responses to Axis 2 (Relationship Between Audit Activities and Risk Management)**

| N  | Item                                                              | Weighted Mean | Standard Deviation | Response |
|----|-------------------------------------------------------------------|---------------|--------------------|----------|
| 13 | Annual audit plans align with risk assessments                    | 2.67          | 0.661              | Agree    |
| 14 | Audit committees approve audit plans                              | 2.73          | 0.583              | Agree    |
| 15 | Resources for plan implementation are consistently verified       | 1.40          | 0.498              | Disagree |
| 16 | Internal audit coordination improves risk management              | 2.67          | 0.606              | Agree    |
| 17 | Audits enhance risk management and internal controls.             | 2.50          | 0.777              | Agree    |
| 18 | Audits evaluate risks related to bank activities                  | 2.70          | 0.535              | Agree    |
| 19 | Audits establish effective control mechanisms                     | 2.63          | 0.615              | Agree    |
| 20 | Auditors assess management's risk tolerance                       | 2.30          | 0.750              | Neutral  |
| 21 | Audit conclusions are based on objective analyses                 | 2.60          | 0.770              | Agree    |
| 22 | Audits provide essential risk management information              | 2.50          | 0.777              | Agree    |
| 23 | Audit reports are shared with relevant stakeholders               | 2.70          | .651               | Agree    |
| 24 | Audit committees resolve disputes between auditors and management | 2.43          | 0.679              | Agree    |
|    | Total                                                             | 2.49          | 0.61               | Agree    |

Source :Prepared by researcher

Table ( 3) shows that the **overall mean** of respondents' answers for this axis is **2.45**, indicating that the internal audit activities in the studied banks have contributed to improving risk management and activating internal control systems. This is achieved through well-designed audit plans based on objective and appropriate analyses and evaluations for managing banking risks. The **overall standard deviation of 0.61** confirms the acceptability of this result. Regarding the axis items: **Item 2** ("The audit committee approves the audit plan") received the **highest arithmetic mean of 2.73**, exceeding the overall mean (2.49). This highlights the audit committee's critical role in supporting the internal auditor's efficiency and effectiveness by expanding their scope of work, providing necessary information, and safeguarding their independence. This is reinforced by a **standard deviation of 0.59** and a response trend of "**Agree**". **Item 3** ("Resources for implementing approved plans are consistently verified") received the **lowest arithmetic mean of 1.40**, significantly below the overall mean (2.49). This indicates respondents' **disagreement** with this item, as evidenced by the **standard deviation of 0.49** and a response trend of "**Disagree**".

#### 4. Responses to Axis 3

**Table (4): Responses to Axis 3 (Role of Internal Auditors in Risk Management)**

| N  | Item                                                                | Weighted Mean | Standard Deviation | Response |
|----|---------------------------------------------------------------------|---------------|--------------------|----------|
| 25 | Collaboration between audit and risk management departments         | 2.50          | 0.572              | Agree    |
| 26 | Auditors assess fraud risks and mitigation strategies               | 2.70          | 0.596              | Agree    |
| 27 | Auditors verify internal controls for operational risks             | 1.60          | 0.675              | Disagree |
| 28 | Auditors evaluate risks of new services                             | 2.67          | 0.547              | Agree    |
| 29 | Auditors define management's risk tolerance                         | 1.43          | 0.679              | Disagree |
| 30 | Auditors recognize the importance of banking risks                  | 3.00          | 0.000              | Agree    |
| 31 | Audits improve risk management through performance evaluations      | 2.67          | 0.547              | Agree    |
| 32 | Audits provide accurate information for senior management decisions | 2.60          | 0.675              | Agree    |
|    | Total                                                               | 2.40          | 0.60               | Agree    |

**Source :Prepared by researcher**

Table (04 ) demonstrates that the **overall arithmetic mean** of respondents' answers for this axis is **2.40**, indicating agreement among the study sample that **internal auditing plays a role in banking risk management**. Internal auditing and risk management serve as critical tools for bank management, collaborating through information exchange to enhance and activate risk management processes. This is supported by a **standard deviation of 0.6** and a response trend of "**Agree**". **Regarding the axis items:Item 6** ("The internal auditor recognizes the importance and impacts of banking risks, necessitating effective control systems") achieved the **highest arithmetic mean of 3.00**, reflecting **unanimous agreement** among respondents. This underscores that the internal audit process is sufficiently aware of the importance of banking risk management and that achieving set objectives requires an effective control system. **Item 5** ("The internal auditor defines acceptable risks") received the **lowest arithmetic mean of 1.43**, significantly below the

overall mean (2.40). This indicates **disagreement** among respondents, as evidenced by a **standard deviation of 0.67** and a response trend of "**Disagree**".

**Table (4):Correlations**

|                                                                                                                  |                            | First axis | The second axis | The third axis |
|------------------------------------------------------------------------------------------------------------------|----------------------------|------------|-----------------|----------------|
| The first axis: The status of auditing in the institution and the extent to which it applies auditing standards. | <b>Pearson Correlation</b> |            | ,721**          | ,491**         |
|                                                                                                                  | Sig. (2-tailed)            |            | 0               | 0,006          |
|                                                                                                                  | N                          |            | 30              | 30             |
| Axis II: The relationship between audit activities and risk management                                           | <b>Pearson Correlation</b> | ,721**     |                 | ,755**         |
|                                                                                                                  | Sig. (2-tailed)            | 0          |                 | 0              |
|                                                                                                                  | N                          | 30         |                 | 30             |
| Axis III: Testing the relationship between the role of the internal auditor in risk management                   | Pearson Correlation        | ,491**     | ,755**          |                |
|                                                                                                                  | Sig. (2-tailed)            | 0,006      | 0               |                |
|                                                                                                                  | N                          | 30         | 30              |                |

\*\*, Correlation is significant at the 0.01 level (2-tailed).

**\*\*There is a correlation when the sig value is equal to 0.01.**

**Source: SPSS v19 outputs**

## 5.2 - Discussion of Results (Hypothesis Testing)

1. "A statistically significant relationship exists between the standing of the auditing profession, its compliance with auditing standards, and risk management" at a significance level of  $\alpha = 0.05$ .
  - o **Pearson's correlation test** was used to determine the relationship. The results, shown in **Table ( )**, reveal a **p-value of 0.000** (less than 0.05) and a **correlation coefficient (R) of 0.721**. This confirms the acceptance of the hypothesis, indicating a **strong statistically significant relationship** between the standing of internal auditing in banks, its compliance with auditing standards, and risk management at  $\alpha = 0.05$ .
2. "There is a statistically significant impact between internal audit activities in risk management and the role of the internal auditor in risk management" at a significance level of  $\alpha = 0.05$ .

- To test this hypothesis, correlation analysis was conducted by formulating the **null hypothesis ( $H_0$ )** and **alternative hypothesis ( $H_1$ )**:
- - **$H_0$** : No statistically significant impact exists between internal audit activities and the role of the internal auditor in risk management.
  - **$H_1$** : A statistically significant impact exists between internal audit activities in risk management and the role of the internal auditor in risk management.
- **Interpretation:**
  - If  $\alpha > \text{p-value (sig)}$ , reject  $H_0$  and accept  $H_1$ .
  - If  $\alpha < \text{p-value (sig)}$ , reject  $H_1$  and retain  $H_0$ .
- **Results:**
  - **Table ( 04)** shows a **correlation coefficient of 0.755** and a **p-value of 0.000** (less than  $\alpha = 0.05$ ). Thus, we **reject  $H_0$**  and **accept  $H_1$** , concluding:  
*"A statistically significant relationship exists between internal audit activities and the role of the auditor in risk management."*

3.

4. **Testing the Third Hypothesis: What is the Impact of Internal Auditing on Risk Management in the Studied Banks?**

Based on theoretical and practical analyses of the study sample (banks in Sétif):

The study established a statistically significant relationship between the importance of internal auditing in banks and their adherence to auditing standards such as independence, objectivity, and audit quality. Notably, internal audit reports were found to align with professional auditing standards, reflecting compliance and transparency. Auditors demonstrated neutrality and integrity in their roles, conducting independent evaluations of internal control systems to ensure accountability. Furthermore, auditor performance underwent regular reviews by audit committees, reinforcing institutional oversight. Processes were assessed using a combination of formal and informal documentation, ensuring thoroughness and adaptability in audit practices. Additionally, the research highlighted a strong link between audit activities and effective risk management. This relationship was evident through annual audit plans tailored to risk assessments, systematic evaluations of risks tied to banking operations, and the establishment of robust control mechanisms. Enhanced coordination within internal audit departments further strengthened risk management frameworks, while audits provided senior management with actionable insights to refine risk strategies and ensure system integrity. The study also underscored the internal auditor's awareness of their role in risk management implementation. Collaborative efforts between audit and risk management departments facilitated improved risk processes, with auditors offering advisory support while maintaining a clear separation from direct risk management responsibilities. Auditors exhibited a strong understanding of their critical role in driving risk management initiatives, validated by their focus on verifying effective internal controls and assessing capital adequacy to mitigate risks. These findings collectively emphasize the integral role of internal auditing in fostering organizational resilience and compliance.

## 6. Results

The findings highlighted the critical role of internal auditing within banking institutions in achieving objectives such as **safeguarding organizational assets, enhancing the reliability of financial statements, and ensuring compliance with internal policies, procedures, and regulations**. Additionally, the study emphasized the internal auditor's contribution to **activating risk management** through the implementation of **internal control systems**, which help identify, reduce, and prioritize banking risks based on their severity.

## 7. Recommendations:

To advance internal auditing practices in banks, the study proposes prioritizing the role of internal auditing to strengthen risk management and internal control systems. Auditors should be provided with adequate resources, information, and support to address operational challenges. Banks must align with evolving international auditing standards, particularly those related to risk management frameworks. Regulatory reforms should ensure the independence of audit departments, mandate qualifications for auditors, and allocate sufficient financial and human resources to these functions. Dedicated risk management units should be established to assess and mitigate risks while balancing profitability. These units must calculate capital adequacy ratios in compliance with updated Basel Committee guidelines. Auditors should also evaluate organizational factors affecting internal controls, such as structure, authority delegation, and managerial supervision. Enhancing audit expertise requires equipping teams with skills to monitor risk processes. Talent development strategies include recruiting specialized professionals and upskilling existing staff through training programs. Finally, continuous professional development via specialized courses is essential to improve auditor performance and adapt to industry advancements. This holistic approach ensures robust risk management, compliance, and organizational resilience in the banking sector.

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