



## The Role of Internal Audit in Reducing Accounting Errors

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### **Abstract**

*This study examines the role of internal audits in reducing accounting errors in Algerian institutions. Taking an applied research approach, it examines the procedures and techniques used by internal auditors, as well as the extent to which they adhere to auditing standards and their responsibilities in minimising accounting errors. The research emphasises the concept and significance of internal auditing, as well as its proactive role in the detection, mitigation and prevention of accounting errors. The empirical study was conducted within the Algerian Water Distribution Company, the Directorate of Health and Transport, the Public Treasury, the Budgetary Control Department and several auditing offices in Saïda. Data were collected using an exploratory sample and distributed questionnaires, and analysed statistically using SPSS (version 27). The findings indicate a significant relationship between internal auditors' compliance with internal auditing standards and their effectiveness in detecting and reducing accounting errors.*

**Key Words:** Budgetary control, internal audit, accounting errors

## **Le rôle de l'audit interne dans la réduction des erreurs comptables**

### **Résumé**

*Cette étude examine le rôle des audits internes dans la réduction des erreurs comptables dans les institutions algériennes. Adoptant une approche de recherche appliquée, elle examine les procédures et techniques utilisées par les auditeurs internes, ainsi que leur degré d'adhésion aux normes d'audit et leurs responsabilités dans la minimisation des erreurs comptables. La recherche met l'accent sur le concept et l'importance de l'audit interne, ainsi que sur son rôle proactif dans la détection, l'atténuation et la prévention des erreurs comptables. L'étude empirique a été menée au sein de la Société algérienne de distribution d'eau, de la Direction de la santé et des transports, du Trésor public, du Département du contrôle budgétaire et de plusieurs bureaux d'audit à Saïda. Les données ont été collectées à l'aide d'un échantillon exploratoire et de questionnaires distribués, puis analysées statistiquement à l'aide du logiciel SPSS (version 27). Les résultats indiquent une relation significative entre le respect par les auditeurs internes des normes d'audit interne et leur efficacité dans la détection et la réduction des erreurs comptables.*

**Mots clés :** *Contrôle budgétaire, audit interne, erreurs comptables*



## **Introduction**

The increasing complexity and diversity of organisational activities, coupled with their growth in size, has led to a significant increase in the amount of financial information that must be prepared periodically. This was one of the direct reasons for the emergence of internal auditing. As organisations grew in size and utilised extensive human, material and financial resources, management became more challenging, resulting in a multitude of operations, information flows, errors, deviations and, occasionally, manipulations. Therefore, an internal audit unit is indispensable for an organisation.

Although auditing for fundamental supervisory purposes dates back to early civilisations, the auditing profession has undergone profound development in recent times. This evolution is attributed to the Industrial Revolution, the spread of financial institutions and the use of computers, among other factors, which made the presence of a qualified and independent internal auditor necessary. Initially, internal auditing was limited to detecting errors and fraud, and preventing their recurrence. Internal auditing was used to conduct complete and continuous reviews of accounting operations, as external auditors typically begin their reviews after the end of the fiscal year and rely on statistical samples of entries, records and documents, since a full audit is neither practical nor efficient for business organisations or auditors alike.

### ***Research Problem***

The study problem lies in the effective role of internal auditing in reducing accounting errors, as well as in the lack of knowledge of international auditing standards and the non-use of techniques and methods in internal auditing. Accordingly, the research problem can be formulated as follows:

**To what extent does internal auditing play a significant role in detecting and reducing accounting errors within Algerian institutions?**

To answer this problem, the following sub-questions are posed:

- Is there a relationship between the importance of internal auditing and the detection and reduction of accounting errors?
- Is there a relationship between the internal auditor's adherence to internal auditing standards and the detection and reduction of accounting errors?

### ***Research Hypotheses***

To address the main problem and the sub-questions, the following hypotheses are formulated:

- There is a statistically significant correlation between the importance of internal auditing and the detection and reduction of accounting errors.
- There is a statistically significant correlation between the internal auditor's adherence to internal auditing standards and the detection and reduction of accounting errors.



### ***Importance of the Study***

The importance of the study lies in highlighting the role and significance of internal auditing in detecting accounting errors and working to reduce them by following the necessary procedures that assist in error detection. It also aims to promote the culture of internal auditing, clarify the professional responsibilities placed on internal auditors, and raise awareness among them. This, in turn, contributes to elevating the performance of the internal auditing profession to the required level, enabling institutions to continue operating competitively, increasing their size and activities, thereby enhancing their role in the economy.

#### **• Previous Studies**

<b>No.</b>	<b>Study</b>	<b>Title</b>	<b>Points of Benefit from the Study</b>
1	(Olowolaju, 2013)	Effect Of Internal Audit On Prevention Of Frauds, Errors And Irregularities In Corporate Organisation	This study explored the role of internal auditing in preventing errors, violations and fraud within organisations, as well as the various types of errors and audit-related challenges.
2	(Kastrati, 2015)	The Role Of Audit In Detecting Errors	This study helped understand the impact of auditing

		In Financial Statements	on detecting errors in financial statements caused by various reasons. It also aided institutions in eliminating errors affecting the accuracy and reliability of financial data. The study noted that employee-related problems such as lack of experience, incompetence, and insufficient accounting knowledge are key causes of errors.
3	Semanur Adalı, Cevdet Kızıl (2017)	Research On The Responsibility Of Accounting Professionals To Determine And Prevent Accounting Errors And Frauds: Edirne Sample	This study contributed to understanding terms related to errors and fraud, and the extent to which accountants adhere to professional ethics.
4	(Topor, 2017)	The Auditor's Responsibility	This study emphasized that



		For Finding Errors And Fraud From Financial Situations: Case Study	auditors strive, through their reports, to provide reasonable assurance (not absolute) that the financial statements examined are free from material misstatement due to fraud or error. It also underlined that the responsibility for preventing and detecting fraud and errors lies with the management of audited entities and that the auditor's opinion enhances the credibility of financial statements.
5	Çağiran, Selçuk (2019)	The Frauds And Errors In Auditing: A Case Study In Çorum	This study aided in understanding the concepts of errors and fraud in

		Area	accounting, as well as auditing and accounting control concepts, and the adherence to professional ethics standards.
6	Cevdet Kızıl, Erol Muzır, Vildan Yılmaz (2021)	Auditing Techniques To Minimize Accounting Related Fraud And Errors: A Qualitative Analysis With The Interview Method	This study provided knowledge of auditing techniques that can reduce fraud and accounting-related errors in organizations.
7	(Khairini, et.al., 2022)	The Role Of Internal Audit In Fraud Prevention And Disclosure	This study identified the effect of internal auditing in preventing and detecting fraud and indicated that having an internal audit department can reduce or even eliminate fraud occurrences.
8	(Iamandache, et.al., 2023)	The Importance Of The Financial Audit In	This study clarified that the main goal of



		Preventing Accounting Errors And Fraud	auditors is to express an opinion on the accuracy of reported information in all material respects concerning the applied accounting framework. It also reviewed international auditing standards which require auditors to ensure that the risk of fraud does not affect their audit opinion, and identified indicators for detecting fraud risks and accounting manipulation reports usable by auditors.
9	Abd Aljalil Mahdi (2024)	The Role Of Internal Audit In Discovering Accounting	This study explored the role of internal auditing in

		Errors: Evidence From University Of Karbala	handling financial errors, their causes and types, highlighting the significant role of internal auditing in detecting and correcting financial errors occurring during all stages of the accounting cycle.
10	Soran Abdullah Mustafa, Arshad Siddiq Abdullah, Azure Anwar Othman, Aso Azad Aziz Altutinchy (2024)	The Auditor's Responsibility To Detect Errors And Fraud And Its Role On The Quality Of The Audit: An Exploratory Study Of The Opinions Of A Sample Of Auditors And Academics In The Accounting Specialization In The City Of Erbil	This study examined the methods used by auditors to detect errors and fraud, aspects of professional responsibility related to audit quality, causes linked to the auditor and auditing standards affecting the auditor's performance in detecting errors and fraud, and auditor responsibilities



			and rules regarding the detection of fraud and error in financial statements.
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### 1. Internal Audit and the Evolution of Its Concept

The function of internal audit has developed and gained importance due to its critical role within organizations. This evolution occurred through different stages, influenced by environmental conditions and management needs, which shaped the position of internal audit within institutions alongside the development of related concepts. The complexity and diversity of business activities and the increasing size of economic institutions led to the emergence of internal auditing, initially aimed at detecting fraud, errors, and manipulation. The concept of internal auditing is not new; it has been known for quite some time, and the nature and scope of internal auditors' services have witnessed considerable theoretical development (Nada, 2014, p. 200).

In 1947, the Institute of Internal Auditors (IIA) in the United States issued the Internal Auditor's Responsibilities Bulletin, which defined the nature, objectives, and responsibilities of internal audit. The bulletin defined internal audit as: "An impartial activity conducted within the institution aimed at reviewing accounting and financial operations as a basis for providing preventive services to management. It is a type of control that works by measuring

the effectiveness of other controls and evaluating them, focusing on accounting and financial operations."

## **2.1 Definition of Internal Audit**

Several definitions have been provided in Arabic and foreign literature by researchers and professional bodies from different perspectives depending on the importance of its roles. Among them:

Internal audit is "an independent evaluation activity existing within the unit to examine and assess its activities as a service to the institution itself. The audit is conducted by an employee of the institution whose activities are subject to examination and assessment. It involves reviewing books and records and verifying compliance with accounting standards during registration and is considered one of the tools of internal control" (Al-Tamimi, 2006, p. 25; Sawad, 2009, pp. 194-195; Al-Qadi & Dahdouh, 2009, pp. 52-53; Saraya, Shehata, Rashid, & Ibrahim, 2013, pp. 119-120).

Jacques Renard defines it as: "A function within the institution, like other functions, practiced independently, aimed at evaluating and assessing the internal control system to contribute to risk management by managers" (Renard, 2016, p. 61).

## **1.2 Importance of Internal Audit**

The importance of internal auditing generally stems from its objectives to safeguard assets, detect fraud, and reduce manipulation and illegal acts by providing a wealth of information to decision-makers. Decision-makers require management to select reliable information for decision-making because financial information audited by an independent auditor is the basis for decisions, assuming that



the information is complete and unbiased. Internal auditing plays a major role in the relationship between owners and management, as the prevailing legal custom holds management responsible for providing reliable information to users of financial statements, and if users rely on inaccurate financial statements and suffer losses, they may file compensation claims against management (Manal Mohamed, 2018, p. 57).

### 1.3 Types of Internal Audit

Internal audit focuses on verifying the accuracy of financial information and its consistency with supporting documents, as well as determining the reliability of this information for decision-making (Shamala, 2016, p. 27).

- **Operational Internal Audit:**

This involves a comprehensive examination of all institutional activities by evaluating and identifying weaknesses, then addressing them through remedial procedures (Makhlouf, 2007, p. 79).

- **Compliance Audit:**

Refers to verifying the degree of internal adherence to policies and procedures set by senior management and evaluating their contribution to achieving organizational objectives (Al-Qadi, 2016, p. 53).

- **Human Resources Audit:**

Also called personnel audit, this serves as a management tool to control various social aspects and issues within the institution (Tounsi & Bournane, 2016, p. 343).

- **Information Systems Audit:**

Aims to test the security and integrity of data processed by information systems and the outputs they produce, ensuring that financial and operational records and reports are accurate, verifiable, timely, complete, and useful (Al-Qadi, Dahdouh, & Qarit, 2007, p. 111).

#### **1.4 Internal Audit Techniques**

To perform internal audit tasks, including planning, executing audit work, and justifying results and recommendations in audit reports, auditors require both qualitative and quantitative data gathered and analyzed through various tools and techniques, such as (General Organization for Technical Education and Vocational Training, n.d., pp. 33-34):

a. **Physical Inspection and Inventory:**

Examining or physically reviewing the item to be audited, counting, measuring, or inventorying it as appropriate.

b. **Documentary Audit:**

Institutions record financial transactions in registers supported by documents. Auditors carefully examine these documents to verify their accuracy and validity, ensuring they are genuine and authorized by relevant personnel.

c. **Confirmation System:**

Obtaining verifications from external parties regarding their balances with the institution, with responses ideally sent directly to auditors to prevent tampering.



d. **Inquiry and Tracing System:**

Auditors request verbal or written information or answers to inquiries from employees to obtain evidence not otherwise accessible.

e. **Other Methods:**

- **Recalculation Audit:** Verifying the correctness of accounts and the accuracy of amounts posted and transferred.
- **Comparative and Correlation Systems:** Conducting analytical reviews to identify abnormal conditions, often relying on the auditor's experience and skill, which may lead to further detailed investigation.
- **Critical Audit:** Careful scrutiny of books and records to notice any unusual or noteworthy matters.

## 1.5 Steps to Perform Internal Audit

Typically, an audit task is completed in four main stages:

### a- Assignment Phase:

The purpose is to inform the auditor of the tasks to be performed. The internal audit department does not decide on its own the tasks or activities to audit; this decision comes from senior management via an "assignment order," which is a brief authorization document allowing auditors to start their work. The assignment should specify (Lemant, 1995, p. 35; Tcherkawsky & Laurent, 1989, p. 114):

- Activities and functions subject to audit
- Expected objectives of the audit

- Reasons for the audit request and the requester
- The period under review
- Evaluation criteria
- Estimated time required for each phase

Sometimes, the assignment is not disclosed for urgent or surprise audits.

### **b- Planning and Study Phase:**

Audit requires prior planning and thought. This stage is critical as the quality of audit depends heavily on it. The auditor must allocate adequate time to plan and direct the assigned task because the institution is not merely a collection of numbers but a group of people interacting with an external environment, requiring adaptive approaches each time (Al-Sahen, Rajab, & Darwish, 2000, p. 122).

During this phase, the auditor should:

- Understand the audited activity and the concerns expressed by the audit requester
- Identify key areas for focused examination
- Prepare a mission plan outlining the nature and schedule of work, also known as the guiding report

### **c- Execution Phase:**

Includes three main steps (Renard, 1996, p. 253) – (the rest of the execution phase content would continue)...

### **d- Execution Phase (continued)**

This phase involves the actual implementation of the audit plan and typically includes the following steps (Renard, 1996, p. 253):



- **Collecting Evidence:**

The auditor gathers sufficient and appropriate evidence to support the audit findings by applying the techniques and tools described previously, such as physical inspection, document examination, inquiries, and analytical procedures.

- **Testing Controls and Procedures:**

Assessing the effectiveness of internal controls and verifying compliance with established policies and procedures.

- **Evaluation of Findings:**

Analyzing and interpreting the evidence to determine whether the audited activities conform to standards and meet objectives.

### **e- Reporting Phase:**

After completing the audit procedures, the auditor prepares a detailed report that includes:

- The audit objectives and scope
- The methodology and procedures followed
- Key findings, including any discrepancies, weaknesses, or non-compliance issues
- Recommendations for improvements and corrective actions
- A conclusion summarizing the overall assessment of the audited area

The report is usually presented to senior management and relevant stakeholders to facilitate informed decision-making and corrective measures.

## **2. Applied Study**

This study examined the role of internal auditing in reducing accounting errors. It is characterized by its applied nature, aiming to explore the procedures, methods, and techniques used, as well as the extent to which auditors comply with internal auditing standards, in addition to the role and responsibility of the internal auditor in minimizing accounting errors within the organization.

### **2.1 Study Sample**

A total of 40 questionnaires were distributed among accounting and auditing offices, budget control staff, the Public Treasury, the Directorate of Health, the Directorate of Transport, and the Algerian Water Company located in the Wilaya of Saïda. Of these, 36 valid questionnaires were retrieved for analysis, representing 90% of the total distributed questionnaires.

Here's your text translated into clear academic English, with the table adapted for readability:

The table below (Table II1) summarizes the process of collecting information through the distribution of questionnaires.

**Table 1: Results of Questionnaire Distribution**

Study Sample	Distributed Questionnaires	Missing	Retrieved Questionnaires	Disqualified	Valid Questionnaires
	Number	%	Number	%	Number
Audit Offices (6 offices)	8	20%	0	0	8
Public Treasury	10	25%	0	0	10
Budgetary Control	10	25%	0	0	10
Directorate of Health	4	10%	0	0	4
Directorate of Transport	4	10%	0	0	4
Algerian Water Company - Saïda Unit	4	10%	0	0	4
<b>Total</b>	<b>40</b>	<b>100%</b>	<b>0</b>	<b>0</b>	<b>40</b>

*Source: Prepared by the researchers*

## 2.2 Analysis of Questionnaire Distribution Results

The data presented in Table 1 indicate that the questionnaires were distributed among six main categories

within the study sample, namely: audit offices, the Public Treasury, budgetary control departments, the Directorate of Health, the Directorate of Transport, and the Algerian Water Company – Saïda Unit.

A total of **40 questionnaires** were distributed, with **36 valid responses** retrieved, representing **90%** of the total distributed questionnaires. The highest proportion of valid responses came from the Public Treasury and budgetary control departments, each contributing **25%** of the total valid questionnaires, followed by audit offices at **20%**.

The lowest valid response rates were recorded for the Directorate of Health and the Directorate of Transport, each accounting for **7.5%** of the total, while the Algerian Water Company – Saïda Unit contributed **5%**. The relatively low percentage in these last three institutions is mainly attributed to the small number of questionnaires distributed to them and the disqualification of certain responses due to incomplete or inconsistent data.

This high overall response rate (90%) reflects the good level of cooperation from the targeted institutions, which enhances the credibility of the collected data and strengthens the validity of the study's findings.

### **2.3. Study Tool**

1. Identifying the main dimensions covered by the questionnaire.
2. Determining the items that fall under each dimension.
3. Designing the preliminary version of the questionnaire, which consisted of four (04) dimensions and fifty-eight (58) items.
4. The questionnaire was divided into two main sections as follows:



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- **First Section:** Includes the general characteristics of the study sample and contains the qualitative data of the respondents, such as age, academic qualification, job title, years of experience, academic specialization, and training courses attended in the fields of auditing and accounting.
- **Second Section:** Consists of four (04) dimensions comprising 55 questions, which were designed to address the research hypotheses:
  - **First Dimension:** There is a statistically significant correlation between the importance of internal auditing and the detection and reduction of accounting errors. This dimension includes eight (08) items.
  - **Second Dimension:** There is a statistically significant correlation between internal auditors' compliance with internal auditing standards and the reduction of accounting errors. This dimension includes fifteen (15) items.
  - **Third Dimension:** There is a statistically significant correlation between the use of internal auditing methods and techniques and the detection and reduction of accounting errors. This dimension includes sixteen (16) items.
  - **Fourth Dimension:** There is a statistically significant correlation between the role and responsibilities of the internal auditor and the detection and reduction of accounting errors. This dimension includes sixteen (16) items.

## 2.4. The Measurement Scale Used

The questionnaire items were developed based on the five-point Likert scale, which measures five possible responses. This scale was chosen to identify the respondents' opinions regarding the questionnaire's dimensions and to facilitate the coding and categorization of responses, as shown in the following table:

**Table 2: Five-Point Likert Scale**

Category	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Score	1	2	3	4	5

*Source: Prepared by the researchers*

## 2.5. Validity and Reliability of the Questionnaire

This field study relies on examining and analyzing the role of internal auditing in reducing accounting errors and clarifying the significance of this role from the perspective of the study sample. In order to ensure the possibility of obtaining scientific results and analyses from this study, the validity and reliability of the research tool will be tested.

## 3. Discussion of Results

**Table 3: Pearson Correlation Coefficients between the Score of Each Item and the Total Score of the First Dimension**

Item No.	First Dimension Items	Pearson Correlation Coefficient	Significance Value (Sig.)
01	Internal auditing is one of the internal control tools concerned with ensuring the implementation of	**0.831	0.001



	administrative and financial policies and reducing the chances of errors.		
02	Internal auditing allows achieving the highest possible administrative efficiency by eliminating waste, detecting manipulation errors, and ensuring the accuracy of the information provided to management to guide it in developing plans, making decisions, and monitoring their implementation.	**0.835	0.001
03	The importance of auditing in general stems from verifying its objectives in safeguarding funds, detecting fraud, and reducing manipulation and illegal practices.	**0.794	0.001
04	Internal auditing plays an important role in directing the operations of organizations towards success, as it	**0.797	0.001

	helps examine, evaluate, and assess financial, administrative, and operational activities.		
05	The objective of internal auditing is to ensure the accuracy and correctness of accounting data recorded in the institution's books and records and to determine the extent of their reliability.	**0.842	0.001
06	Detecting any potential errors or fraud in the books and reducing the likelihood of their occurrence is a core objective of internal auditing.	**0.815	0.001
07	Performing internal auditing tasks of examination, evaluation, and control ultimately leads to detecting accounting errors and preventing them, which in turn enhances confidence in the books and records as well as in the data	**0.658	0.001



	and information.		
08	Internal auditing focuses on reviewing financial and accounting operations through relevant documents, statements, and records, aiming to ensure the sound completion of various operations from both financial and accounting perspectives.	**0.831	0.001

**Note:** Correlation is statistically significant at the 0.01 level ( $\alpha = 0.01$ ).

The critical  $r$  value at a significance level of 0.01 and 34 degrees of freedom equals 0.449.

*Source: Prepared by the researcher based on SPSS V.27 output.*

From the results shown in Table II3, it is evident that all Pearson correlation coefficients between each item of the first dimension and the total score of its items are statistically significant at the 0.01 significance level. The minimum correlation coefficient recorded was 0.658, while the maximum was 0.842. The significance value for each item was less than 0.01, and the calculated  $r$  value exceeded the critical  $r$  value (0.449) at the 0.01 significance level with 34 degrees of freedom.

Accordingly, all items of the first dimension are internally consistent with their corresponding dimension, which confirms the internal consistency validity of the first dimension's items.

### 3.1 Data Analysis

- **First - Test of Normal Distribution (One Sample Kolmogorov-Smirnov Test)**

The researchers used the Kolmogorov-Smirnov test to determine whether the data follow a normal distribution. This test is essential when testing hypotheses, as most parametric tests require that the data be normally distributed.

Table (4) presents the test results, showing that the significance value (Sig.) for each axis is greater than 0.05 (Sig. > 0.05). This indicates that the data follow a normal distribution, and thus parametric tests should be used to address the study hypotheses.

**Table (4): Results of the Normality Test (1-Sample Kolmogorov-Smirnov)**

Axis	Axis Title	No. of Items	Test Value	Significance Value (Sig.)*
First	There is a statistically significant correlation between internal auditing and the detection and reduction of accounting errors.	8	0.139	0.075
Second	There is a statistically	15	0.141	0.066



	significant correlation between the commitment of internal auditors to internal auditing standards and the reduction of accounting errors.			
Third	There is a statistically significant correlation between the use of internal auditing techniques and methods in detecting and reducing accounting errors.	16	0.117	0.200
Fourth	There is a statistically significant correlation between the role and	16	0.142	0.066

	responsibility of the auditor in detecting and reducing accounting errors.			
All questionnaire domains combined	55	0.110	0.200	

- The distribution is considered normal when the significance level is greater than 0.05 ( $\alpha$ ).  
Source: Prepared by the researcher based on SPSS.V27.

▪ **Second - Analysis of the Study Axes**

**Table (5): Analysis of the Study Axes**

Axis	Axis Title	Mean	Std. Deviation	Percentage	T-test	Sig. Value	Sample Tendency	Rank
First	There is a statistically significant correlation between internal auditing and the detection and reduction of	4.2326	0.54129	84.652	13.663	0.001	Strongly Agree	1



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	accounting errors.							
Second	There is a statistically significant correlation between the commitment of internal auditors to internal auditing standards and the reduction of accounting errors.	4.1500	0.54426	83.000	12.678	0.001	Agree	2
Third	There is a statistically significant correlation between the use of internal auditing techniques and methods in detecting and reducing	4.0538	0.25290	81.076	12.037	0.001	Agree	3

	accounting errors.							
Fourth	There is a statistically significant correlation between the role and responsibility of the auditor in detecting and reducing accounting errors.	3.9219	0.62471	78.438	8.854	0.001	Agree	4
All axes	4.0677	0.48807	81.350	13.125	0.001	Agree	/	

The tabulated t-value at a significance level of 0.05 and 35 degrees of freedom equals 2.042.

*Source: Prepared by the researcher based on SPSS.V27.*

A one-sample t-test was used, and the results shown in Table (5) indicate the opinions of the study sample on the study axes, ranked in descending order according to the relative weight of each axis.

It is evident that the overall mean of all axes equals **4.0677**, with a relative weight of **81.35%**, which is greater than the neutral relative weight of **60%**. The calculated t-value (**13.125**) is greater than the tabulated t-value (**2.042**), and the significance value (**0.001**) is less than **0.05**. This indicates that "internal auditing plays a role in detecting



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accounting errors, reducing the chances of their occurrence, and limiting them".

Here's your text translated into clear academic English while keeping the statistical details intact:

- **Empirical Study**

This study examined the role of internal auditing in reducing accounting errors. It is characterized by an applied nature, aiming to identify the procedures, methods, and techniques of internal auditing, assess the extent to which auditors comply with internal audit standards, and clarify the role and responsibility of the internal auditor in minimizing accounting errors within organizations.

- **Study Sample**

A total of 40 questionnaires were distributed among accounting offices, auditors, budget control staff, the Public Treasury, the Directorate of Health, the Directorate of Transport, and the Algerian Water Company located in Saïda Province. Of these, 36 valid questionnaires were retrieved, representing 90% of the total distributed.

- **Distribution of the Study Sample by Job Title**

<b>Job Title</b>	<b>Frequency</b>	<b>Percentage</b>
Accountant	12	33.3%
Auditor	8	22.2%
Budget Control Officer	6	16.7%
Public Treasury Officer	4	11.1%
Others	6	16.7%
<b>Total</b>	<b>36</b>	<b>100%</b>

*Source: Prepared by the researchers*

If you want, I can continue and translate the **hypothesis testing results** and **recommendations** into the same polished academic style so they match perfectly with this section.

Here's your full section translated into clear, professional academic English:

- **Hypothesis Testing**

The data collected by the two students were used to reach a decision regarding the acceptance or rejection of the null hypotheses formulated to explain the phenomenon under study. The **One-Sample Mean Test** was applied to the questionnaire results, using the **T-test** for the study hypotheses. The statistical formulation of the hypotheses was as follows:

$$H_0: \mu = 3 \quad H_1: \mu \neq 3$$

When testing the hypotheses at a **significance level**  $\alpha = 0.05$ , the decision follows one of these rules:

- If the observed significance level (p-value) is **greater** than  $\alpha = 0.05$ , accept the null hypothesis  $H_0$ , meaning that respondents are *somewhat neutral*.
- If the observed significance level (p-value) is **less** than  $\alpha = 0.05$ , accept the alternative hypothesis  $H_1$ . This acceptance means the average responses lean toward agreement, leading to two possible interpretations:
  1. If the actual sample mean is **less** than the hypothetical mean, responses tend toward *disagreement*.
  2. If the actual sample mean is **greater** than the hypothetical mean, responses tend toward *agreement*.



▪ **First Hypothesis**

**Statement:** There is a statistically significant correlation between internal auditing and the detection and reduction of accounting errors.

To test this hypothesis, a **One-Sample T-test** was applied to compare the overall mean score for the first dimension with the hypothetical mean of 3 at a 0.05 significance level.

**Statistical formulation:**

- $H_0$ : There is no statistically significant correlation between internal auditing and the detection and reduction of accounting errors.
- $H_1$ : There is a statistically significant correlation between internal auditing and the detection and reduction of accounting errors.

**Table (6): Results of the First Hypothesis Test**

t-calculated	t-tabulated	Sig. (p-value)	$\alpha$	Hypothetical Mean	Sample Mean	Std. Deviation	d
13.663	2.042	0.001	0.05	3.0000	4.2326	0.54129	35

*Source: Prepared by the researcher based on SPSS output*

**Interpretation:** The results indicate statistical significance, with  $p < 0.001$  and a calculated t-value (13.663) exceeding the tabulated value (2.042). Therefore,  $H_0$  is rejected, and  $H_1$  is accepted, confirming a significant correlation between internal auditing and the detection and reduction of accounting errors.

**Result:** The hypothesis is accepted – internal auditing has a statistically significant relationship with detecting and reducing accounting errors.

▪ **Second Hypothesis**

**Statement:** There is a statistically significant correlation between internal auditors’ compliance with internal auditing standards and the reduction of accounting errors.

A **One-Sample T-test** was again applied, this time to compare the overall mean score for the second dimension with the hypothetical mean of 3 at a 0.05 significance level.

**Statistical formulation:**

- H<sub>0</sub>: There is no statistically significant correlation between internal auditors’ compliance with internal auditing standards and the reduction of accounting errors.
- H<sub>1</sub>: There is a statistically significant correlation between internal auditors’
- compliance with internal auditing standards and the reduction of accounting errors.

**Table (7): Results of the Second Hypothesis Test**

t-calculated	t-tabulated	Sig. (p-value)	α	Hypothetical Mean	Sample Mean	Std. Deviation	d f
12.678	2.042	0.001	0.05	3.0000	4.1500	0.54426	35

*Source: Prepared by the researcher based on SPSS v27 output*

**Interpretation:** The results indicate statistical significance, with  $p < 0.001$  (less than 5%) and a calculated t-value



(12.678) exceeding the tabulated value (2.042). Therefore,  $H_0$  is rejected, and  $H_1$  is accepted, confirming a significant correlation between auditors' compliance with internal audit standards and the reduction of accounting errors.

**Result:** The hypothesis is accepted – compliance with internal auditing standards is significantly correlated with detecting and reducing accounting errors.

## Conclusion

The first research question investigated whether internal auditing plays a role in detecting and reducing accounting errors. The second examined whether compliance with internal audit standards by internal auditors influences the detection and reduction of such errors. The findings confirm the existence of a positive relationship in both cases.

Using means and standard deviations to analyse respondents' answers revealed that institutions under examination attach considerable importance to internal auditing, particularly with regard to detecting accounting errors and reducing the likelihood of their occurrence. Testing the relationship between the independent variable (internal audit factors) and the dependent variable (error detection and reduction) confirmed a positive, statistically significant correlation.

### Main results:

1. The first hypothesis is supported: there is a statistically significant correlation between internal

auditing and the detection and reduction of accounting errors.

2. The second hypothesis is supported: there is a statistically significant correlation between internal auditors' compliance with auditing standards and the detection and reduction of accounting errors.

### **Recommendations**

- Accounting and internal audit offices should enhance both the professional and academic competencies of their staff through continuous training.
- Internal auditors should properly plan and execute audit engagements.
- Accountants should adhere to the principles and assumptions of internal auditing to minimize errors and fraud.
- Internal auditors should remain objective when examining and evaluating financial statements.
- Audit offices should ensure the selection of auditors knowledgeable in recognized accounting and auditing principles and standards.
- Internal auditors should pay careful attention to maintaining permanent data stored in databases, verifying their accuracy, integrity, and proper processing.



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