

The Role of Using Electronic Accounting in Facilitating the Tasks of the Internal Auditor an Applied Study on a Sample of Departments at Al-Nahrain University Presidency

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Abstract: Auditing has become a cornerstone of modern oversight, necessitating the continuous advancement of practices within public sector institutions. One key development is the adoption of electronic accounting, which offers speed, accuracy, and efficiency, significantly enhancing the auditing process. For auditors, electronic accounting is especially valuable, as it leads to higher-quality results and enables real-time, precise reporting. Internal auditors play a critical role in public institutions, and the shift to electronic systems allows auditing, examination, and accountability procedures to be conducted digitally. Moreover, by leveraging advanced technologies, institutions can improve service delivery to beneficiaries with greater efficiency and effectiveness.

Keywords: Electronic Accounting, Internal Auditing, Internal Auditor

Introduction: Recent technological advancements have brought about transformative changes globally, including within the field of traditional accounting. These developments have prompted a gradual shift toward computerized accounting, with electronic accounting emerging as a critical tool for enhancing the quality of internal auditing in economic institutions.

Electronic accounting plays a vital role in both the accounting environment and internal auditing, which serves as a cornerstone for an entity's long-term sustainability. Internal auditing is a fundamental tool for supporting effective management, as it involves the examination and evaluation of financial and operational data, ensuring compliance with established policies and procedures. Moreover, it provides valuable recommendations that assist the organization in achieving its objectives while helping to detect and prevent various forms of fraud and manipulation.

Therefore, for an entity's management to effectively fulfill its responsibilities with the necessary speed and accuracy, it must complement traditional manual methods with modern electronic tools. These tools enhance precision and objectivity, enabling the organization to achieve its goals more efficiently and with higher-quality outcomes.

The study aims to elevate the performance level of internal auditors and to demonstrate the impact of using electronic accounting on the quality of internal auditing, as well as the effectiveness of internal auditing in the context of electronic accounting.

The research led to several conclusions, most notably that electronic accounting significantly accelerates the completion of financial transactions while ensuring high quality, thereby saving time and effort. A key recommendation is to place greater emphasis on electronic accounting due to its efficiency in

streamlining financial processes with enhanced quality and minimal resource expenditure.

Section One: Research Methodology

First: Research Problem

Electronic accounting has affected the effectiveness of various systems, including auditing systems and, specifically, internal auditing. These developments have introduced new challenges and heightened the need to address the associated risks, prompting several critical questions:

- Does electronic accounting affect internal auditing procedures?
- Does the use of electronic accounting facilitate the work of the internal auditor?
- What is the responsibility of the internal auditor in the context of electronic accounting?

Second: Research Objective

The research aims to enhance the performance of internal auditors by examining the impact of electronic accounting on the quality of internal auditing. It also seeks to explore the influence of fraud and manipulation, and to evaluate the effectiveness of internal auditing within the framework of electronic accounting systems.

Third: Research Significance

The significance of this research lies in the critical role that electronic accounting and internal auditing play in enhancing and advancing the performance of internal auditors.

Fourth: Research Hypotheses

1. Is there a relationship between electronic accounting and internal auditing?
2. Is there a relationship between the quality of internal auditing and the risks associated with electronic accounting?
3. Does electronic accounting facilitate the tasks of the internal auditor?

Fifth: Data Collection Sources

In the theoretical part of the study, the researchers relied on books, research papers, and both Arabic and

foreign journals related to the topic. For the practical part, a questionnaire form and a checklist analysis were used.

Section Two: Theoretical Framework

First: Electronic Accounting

It is essential to recognize the importance of electronic accounting and its role in internal auditing, as it provides efficient and transparent information that supports and facilitates the auditor's tasks and responsibilities.

Electronic accounting can be defined as:

"A part of information technology in light of rapid development; it is the process of fully transferring and processing accounting data using computers to perform accounting tasks with maximum speed and accuracy (Mustafa, 2008, p. 4).

It is also described as:

"Accounting systems within a networked environment of personal computers connected to or interfacing with server computers, usually built upon processing systems or distributed databases." (Lamin, 2016, p. 116)

Additionally, electronic accounting has been defined as: "Accounting data that covers all branches of accounting and processes data electronically with high accuracy and in minimal time and effort, thereby supporting decision-makers in making sound decisions." (Iman & Mohammed, 2015, p. 163)

The most significant advantages of electronic accounting are: (Hayari, 2022, pp. 454–455).

1. **Universal Access:** All information today is connected to the server and network and can be easily accessed through mobile devices or computers.
2. **Rapid Correction and Accuracy of Results:** In the event of an error, there is a high likelihood of prompt correction, as multiple team members can quickly detect and address it. Furthermore, the involvement of specialized auditing experts helps ensure accuracy and reliability in the results.
3. **Strict Control:** It is difficult for hackers to breach the accounting database, particularly when it is protected by advanced and robust security software.

Despite the numerous advantages of electronic

accounting, it also faces several drawbacks due to problems arising from the use of computers. For instance, data might be lost due to hardware damage, power outages before saving, or computer viruses. The main disadvantages are as follows:

1. **High Costs:** Computers usually require maintenance, replacement, or upgrades over time due to continuous use. Additionally, employees need regular training courses.
2. **System Failure:** Computers may experience sudden breakdowns or encounter unexpected errors that cannot be controlled or detected. This is considered one of the most significant drawbacks, as it can disrupt operations, especially if backup copies are not maintained.

The characteristics of electronic accounting are: (Khashif, 2022, p. 123)

1. **Automation:** Electronic accounting features automation through computer applications, data entry, and processing by applying advanced models to achieve accounting objectives.
2. **Integration of Modern Knowledge:** It is one of the modern fields of knowledge, built upon other disciplines such as computing, networking, communications, accounting, statistics, and information systems.
3. **Globalization:** This refers to the ability to use the Internet to access information whenever and wherever it is needed.
4. **Economic Use:** This means the optimal use of accounting methods and techniques.

Second: Internal Auditing

Due to its importance, internal auditing has been defined by professional organizations, including the Arab Society of Certified Accountants, as:

“An administrative function affiliated with the institution’s management, representing an independent internal activity aimed at control, accountability, performance evaluation, and ensuring the optimal use of resources to achieve maximum production efficiency.” (Al-Mudallal, 2007, p. 43)

The French Institute of Internal Auditors and

Consultants has defined it as:

“An independent activity aimed at assuring the entity regarding the accuracy of financial and non-financial data and information, along with offering advice intended to improve and contribute to creating added value.” (Lakbir, Bouallala, & Mamouni, 2014, p. 4).

Thus, internal auditing can be categorized into three types (Financial Audit Bureau, 2014, p. 10)

1. **Financial Audit:** refers to analyzing the economic activities of the entity, evaluating its accounting systems and information systems, and assessing the reliability of its financial reports.
2. **Compliance Audit:** This means assessing compliance with control regulations, judging their quality and adequacy, and ensuring adherence to established laws, regulations, and procedures.
3. **Operational Audit:** This refers to evaluating the efficiency, effectiveness, and suitability of the entity’s comprehensive functions, such as sales, purchasing, production, etc.

After discussing the concept and types of internal auditing, it is important to highlight its objectives. According to the Institute of Internal Auditors (IIA, USA), the objectives of internal auditing are defined as follows: (Abdullah, 2021, p. 13)

1. To ensure that the procedures, plans, and policies established by senior management are implemented without distortion.
2. To evaluate the efficiency and effectiveness of the accounting and financial methods adopted by the economic entity.
3. To verify the reliability of accounting and statistical data.
4. To ensure the safeguarding of the entity’s assets.
5. To assess and evaluate the responsibility centers.

Others believe that the developments in internal auditing have led to the evolution of its objectives, which now include the following (Stewart & Subramaniam, 2010):

1. Enhancing the operations of the economic unit and its ability to assist senior management in formulating strategies.
 2. Evaluating risk management systems.
 3. Assessing control systems and identifying opportunities for improvement.
 4. Contributing to the governance processes of economic units.
- resulting in numerous benefits, such as: (Dridi et al., 2019, p. 25)
1. System flexibility, through the ability to store and retrieve information at the appropriate time.
 2. Reduced costs and increased speed and accuracy of operations.
 3. Enhanced auditing and decision-making processes by improving the efficiency of internal control systems and enabling the preparation of reports in the shortest possible time.
 4. Accuracy in providing final information and reports, thanks to the computer's built-in control mechanisms.
 5. Faster execution of similar operations and reduced need for staff.

Third: Electronic Accounting and Its Role in Facilitating the Work of the Internal Auditor

Electronic accounting and modern information technology systems provide rapid processing and transformation of data into highly efficient, accurate, and high-quality information. This has made them indispensable tools that greatly reduce time, effort, and costs. Consequently, the delay between a financial event occurring and its reporting has been eliminated,

The differences between traditional accounting and electronic accounting can be outlined as follows: (Al-Hayari, 2022, p. 455)

Aspect	Traditional Accounting	Electronic Accounting
Accuracy	Requires a high level of accuracy in manually transferring data across pages and compiling it in the trial balance, which often leads to errors.	Has less room for error, as each transaction is entered as a single account, making the process easier and more accurate.
Time and Effort	Data entry is manual and may take days to complete reports.	Data is entered electronically once and saved, allowing information to be accessed within minutes, reducing time and effort.
Costs	Higher costs.	Lower costs.
Backup	Paper records are vulnerable to damage or loss for various reasons.	Data can be securely backed up using various means, such as CDs or portable drives.
Accessibility	Accessing information requires physically going to the workplace, reviewing documents, and searching through files, which consumes time and effort.	Information can be accessed more quickly and easily through backup copies.

Based on the above, it can be concluded that electronic accounting offers substantial advantages for internal auditing within organizations, especially from a management perspective. These advantages include the accurate application of established rules and procedures, efficient processing of data into reliable and

high-quality information, and simplified analysis and review of that information. Additionally, electronic accounting strengthens the monitoring of unit performance and ensures proper segregation of duties by enforcing key control and audit mechanisms. Therefore, electronic accounting enhances and supports

internal audit functions by saving time and effort while protecting the unit's assets from theft, loss, or misuse. Additionally, working within such systems reduces the costs borne by the unit. Together, these benefits significantly improve the efficiency and effectiveness of the internal audit process. (Al-Shuraida & Al-Samarrai, 2021, p. 137)

The two researchers believe that electronic accounting, given its significant role in facilitating the work of internal auditors, greatly contributes to the production of high-quality and highly accurate reports in the shortest time and at the lowest cost. This electronic system, in general, simplifies the work of all users, whether accountants, auditors, or management, by providing organized, structured, and digitized data and information that can be accessed at any time without added burden.

An authorized accountant can efficiently use the system to analyze, record, and classify data, as well as prepare financial statements with ease. These records are securely stored, allowing the authorized internal auditor to periodically review and audit them. This process enables the auditor to offer recommendations for correction and improvement and to prepare reports—all under the direct oversight of senior management. As a result, the risk of fraud, manipulation, and misconduct—common vulnerabilities in traditional systems—is significantly reduced.

Section Three: Practical Aspect

Overview of Al-Nahrain University:

Al-Nahrain University was established in 1987 and comprises two campuses: the Southern Campus (Al-Jadriya), which includes the Colleges of Engineering, Science, Political Science, Information Engineering, Business Economics, Biotechnology, the Biotechnology Research Center, Al-Nahrain Center for DNA Fingerprinting Training, the Renewable Nano-Energy Center, and the Electronic Computing Center; and the Northern Campus (Al-Kadhimiya), which includes the Colleges of Medicine, Law, Pharmacy, and the Higher

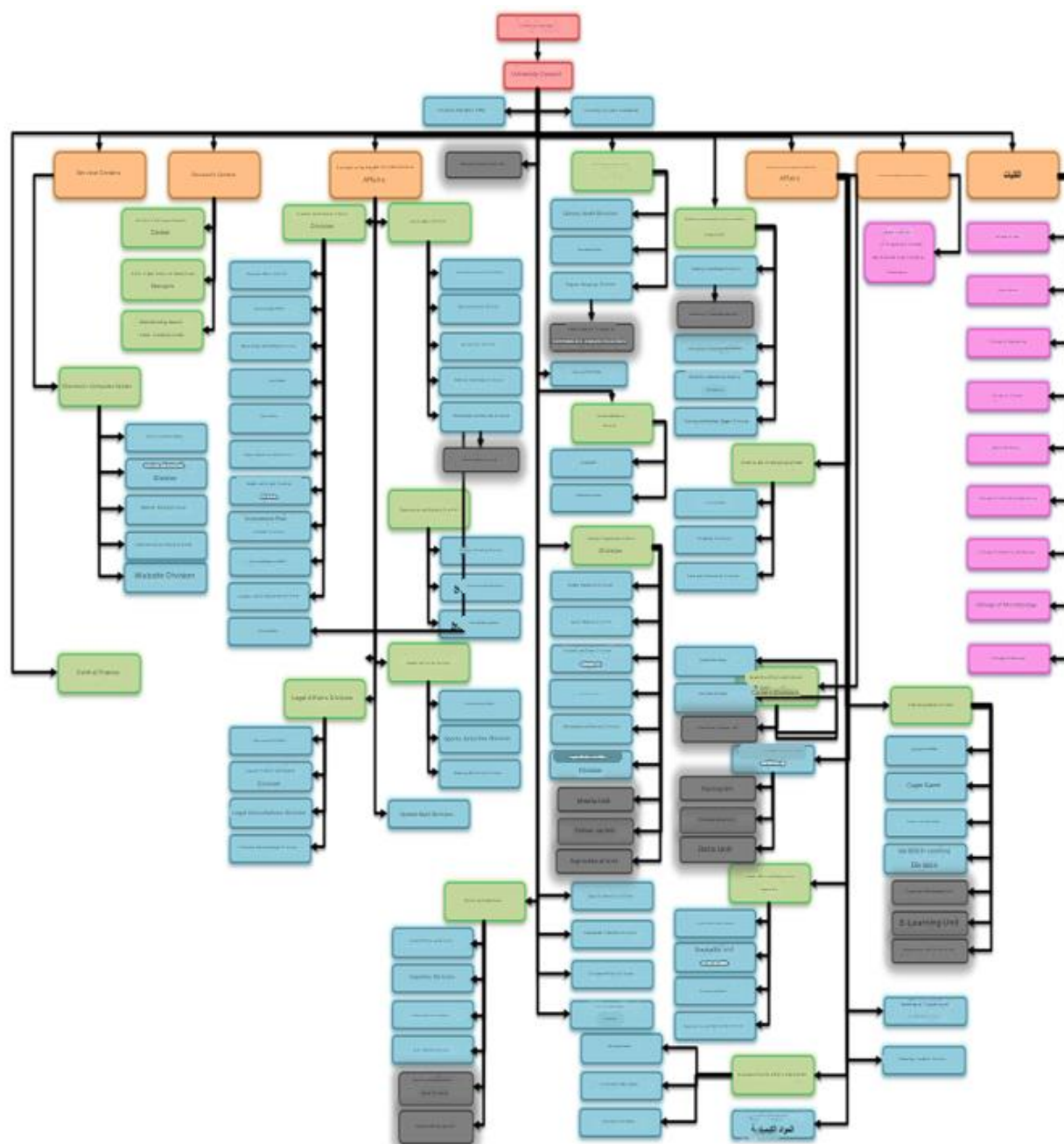
Institute for Infertility Diagnosis and Assisted Reproductive Technologies.

The university was founded to serve as a distinguished academic institution aligned with the rapid advancements in scientific and technological fields relevant to its areas of specialization. It aims to establish a new model of higher education while focusing on preparing skilled personnel capable of forming a scientific base characterized by innovation and creativity. The university aspires to produce outstanding graduates—both at undergraduate and postgraduate levels—who will contribute sincerely and effectively to the scientific and cultural advancement of Iraq.

Al-Nahrain University is a member of the Association of Arab Universities and the International Association of Universities. Its degrees, whether undergraduate (Bachelor's) or postgraduate (Higher Diploma, Master's, Ph.D.), are recognized by UNESCO. Each year, the university experiences significant growth in modern resources and the development of a highly qualified academic staff, empowering it to actively participate in global scientific platforms.

The university also aims to establish a database of scientific expertise capable of driving innovation and applying quality standards to obtain international accreditation. It keeps pace with global scientific and technological progress by conducting advanced research and scholarly projects, and by building academic and cultural relationships with reputable universities and international research centers. These efforts support curriculum development, faculty and graduate student exchange, joint research projects, and the organization of scientific conferences.

The organizational structure and internal regulations of Al-Nahrain University serve as a framework for the administrative hierarchy, clarifying job positions, lines of authority, and responsibilities. This structure enables a clear understanding of the university's departments, divisions, and units, as well as their respective roles and administrative relationships, as illustrated in the following diagram:



Source: Al-Nahrain University / Department of Studies and Planning

About the Department of Internal Audit and Control:

The Department of Internal Audit and Control was established at the university's presidency in 1998. It is an independent unit, directly affiliated with the highest authority in the institution—the esteemed President of the University. In the same year, the department also became affiliated with the Directorate of Audit and Internal Control at the Ministry of Higher Education and Scientific Research.

The department's main objectives include safeguarding the assets and funds of the institution from waste and loss, ensuring compliance with applicable laws and regulations in all financial and administrative

transactions, and strengthening the audit team by appointing specialized staff. It also focuses on enhancing the efficiency and expertise of its employees through continuous training and development programs. The organizational structure of the department consists of four divisions:

1. **Pre-Expenditure Audit Division**
2. **Financial Statements and Records Audit Division**
3. **Contracts Audit Division**
4. **Administrative Control Division**

Description of the Research Sample:

The questionnaire was distributed to the various divisions within the Internal Audit Department at Al-Nahrain University (including the Presidency and

affiliated formations). A total of **60** questionnaires were distributed, of which **50** were completed and returned, while **10** were not answered.

From the above percentages, it is evident that the questionnaire responses reveal both strengths and weaknesses. Below is a professional English translation of the data and conclusion:

Observations

Statement	Yes (%)	No (%)	Assessment
Is electronic accounting faster compared to traditional accounting?	67%	17%	Strength
Can electronic accounting deliver information and evidence to the auditor on time within the electronic environment?	62%	22%	Strength
Do you believe that electronic accounting may eliminate the need for internal auditors?	1%	83%	Weakness
Are there sufficient legal regulations to organize the auditing profession in the electronic environment?	8%	75%	Weakness
Is there difficulty in dealing with senior management in an electronic environment?	51%	33%	Strength
Does the use of electronic accounting reduce audit risks?	61%	23%	Strength
Does electronic accounting enhance the efficiency and effectiveness of internal audit performance?	72%	12%	Strength
Is electronic accounting used to conduct analytical procedures and obtain the required financial indicators?	77%	7%	Strength
Is electronic auditing used to assess materiality and acceptable audit risks?	80%	4%	Strength
Is electronic accounting used to conduct audit committee testing (e.g., semi-annual or year-end inventory)?	75%	9%	Strength
Does electronic accounting facilitate the audit of monthly and final trial balances and related schedules?	82%	2%	Strength
Does electronic accounting help in auditing the timing and date of financial transactions?	79%	5%	Strength
Does auditing with electronic accounting help detect material misstatements in financial statements?	83%	1%	Strength
Does electronic accounting provide financial evidence and indicators for auditing and evaluation?	82%	2%	Strength
Is it possible to audit contingent and potential liabilities using electronic accounting data?	77%	7%	Strength
Is disclosure in the auditor's report sufficient when using electronic accounting?	79%	5%	Strength

Does electronic accounting facilitate the preparation and issuance of the auditor's report?	82%	2%	Strength
Does electronic auditing facilitate organizing audit files and working papers that demonstrate due professional care?	67%	17%	Strength
Does electronic auditing help verify that pre-expenditure, posting, and receipt transactions are executed under laws and regulations promptly?	74%	10%	Strength
Is there responsiveness from senior management to recommendations and observations submitted by audit departments?	78%	6%	Strength
Is there a direct link between the internal audit department and senior management?	82%	2%	Strength
Is there sufficient support from higher authorities for the ongoing developments in internal audit automation?	22%	62%	Weakness
Do internal auditors have sufficient awareness and understanding of the importance of electronic accounting and its impact on their work?	30%	54%	Weakness
Do internal auditors possess adequate qualifications to adapt to these changes?	64%	20%	Strength

From the above data, it is clear that the responses to the questionnaire reveal both **strengths and weaknesses**.

Identified Weaknesses:

1. **Lack of adequate legal regulations** to facilitate and organize the internal auditing profession within the electronic environment.
2. **Difficulty in dealing with senior management** under the electronic accounting environment.
3. **Insufficient understanding from higher authorities** regarding the developments in the automation of internal auditing.
4. **Lack of adequate awareness and understanding among internal auditors** of the importance of electronic accounting and its impact on their work.
5. **Inadequate qualifications among internal auditors** to effectively adapt to electronic transformations.

Identified Strengths:

1. **Electronic accounting is characterized by speed** in processing financial transactions.
2. **It ensures the timely delivery of information to auditors**, enhancing decision-making.

3. **The role of internal auditors remains essential**, even with the adoption of electronic accounting systems.
4. **Using electronic accounting helps reduce audit risks.**
5. **Electronic accounting improves the efficiency and effectiveness of internal auditing.**
6. **It facilitates the execution of analytical procedures** to derive the required financial indicators.
7. **Electronic auditing supports the assessment of materiality and acceptable audit risk levels.**
8. **It assists in the work of audit committees**, such as during periodic or year-end inventory checks.
9. **Electronic accounting simplifies the auditing of trial balances**, both monthly and final.
10. **It helps verify the timing and date of financial transactions.**
11. **Electronic auditing aims to detect material misstatements in financial statements.**
12. **It provides sufficient financial evidence and documentation for audit evaluation.**

13. It allows for the auditing of contingent and potential liabilities.
14. Electronic accounting supports adequate disclosure in the auditor's report.
15. It facilitates the preparation and issuance of the final audit report.
16. It contributes to exercising the required level of professional due care.
17. It ensures that financial transactions are audited in compliance with applicable laws and regulations.
18. There is responsiveness from senior management to suggestions and observations from audit departments.
19. There is a direct link between internal audit departments and senior management, enhancing oversight and accountability.

Based on the clarification and analysis of the questionnaire results, the research hypotheses can be confirmed as follows:

- **Is there a relationship between electronic accounting and internal auditing?**
Yes, there is a clear relationship between electronic accounting and internal auditing. Electronic accounting can be heavily relied upon in the auditing process, significantly reducing the time and effort required. It facilitates faster access to accurate and well-organized financial information, thereby supporting more efficient and effective internal audit practices.
- **Is there a relationship between the quality of internal auditing and the risks associated with electronic accounting?**
Yes, a strong relationship exists between the quality of internal auditing and the risks of electronic accounting. The relationship is inverse—as electronic accounting risks increase, the quality of internal auditing tends to decrease. Therefore, it is essential to pay close attention to managing and mitigating these risks to enhance the overall quality of internal audit processes.

- **Does electronic accounting facilitate the tasks of the internal auditor?**
Yes, electronic accounting significantly facilitates the tasks of the internal auditor by saving considerable time and effort and by delivering results that are more efficient and of higher quality compared to traditional (paper-based) accounting methods.

Based on the above, it can be concluded that there is a pressing need to transition from traditional accounting (pen and paper) to electronic accounting. Adapting to the technological advancements in the accounting environment has notably eased the work of both auditors and accountants. Moreover, this transformation not only reduces time, effort, and costs but also enhances the quality and efficiency of outcomes, making it an essential step toward modernizing financial and auditing practices.

Section Four: Conclusions and Recommendations

Conclusions:

1. **Electronic accounting contributes to the rapid processing of financial transactions** with high quality, significantly reducing the time and effort required.
2. **It plays a vital role in facilitating the tasks of internal auditors**, making their work more efficient.
3. **Despite the use of electronic accounting, internal auditors remain indispensable**, as their oversight and judgment are still crucial.
4. **Electronic accounting supports the detection of misstatements in financial statements** by providing sufficient evidence and audit trails.
5. **Electronic accounting data can be effectively used to prepare and disclose the auditor's report.**
6. **There is a direct link between senior management and internal auditors**, with at least a minimal level of responsiveness to auditors' suggestions.
7. **There is a lack of adequate awareness among internal auditors** regarding the importance and impact of electronic accounting.

8. **Internal audit departments lack the necessary resources and capabilities** to fully implement and utilize electronic accounting systems.

Recommendations:

1. Increase focus on electronic accounting due to its ability to expedite financial transactions with higher quality and minimal effort.
2. Emphasize the importance of electronic accounting and the flexibility it offers in performing auditing tasks.
3. Given that internal auditors remain essential even in a computerized audit environment, it is recommended to provide direct support and all necessary facilitation to enable them to carry out their work effectively.
4. Rely on electronic evidence and documentation, as they are superior in terms of quality and reliability compared to their traditional counterparts.
5. Pay close attention to electronic data due to its critical role in preparing the internal auditor's final report.
6. Enhance the support for internal auditor independence, as they are directly linked to senior management.
7. Organize workshops and seminars for internal auditors to highlight the importance of keeping up with developments in the accounting environment and the shift toward computerized accounting systems.
8. Provide training programs on the use of electronic accounting systems, given their role in simplifying internal audit tasks and delivering high-quality and efficient outcomes, thereby enhancing the level of required professional due care.

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