

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

Mohammad Khmies Muqbel-Arab university college of technology

Mohammadmuqbel21@gmail.com

Send Article Date: 2025-05-17

Date of acceptance of the article 2025-05-22

Abstract

This study examines the impact of audit committee characteristics as a moderating variable in the relationship between internal audit and the components of accounting information systems in ASE-listed industrial companies. Data were collected from 57 Jordanian industrial companies through questionnaires distributed to administrative staff and internal auditors. The results show a significant impact of internal audit on the components of accounting information systems, with audit committee characteristics influencing this relationship. The study recommends developing effective internal audit plans and encouraging employees to investigate the causes of errors and deviations.

Keywords: characteristics of the audit committee, internal audit, components of accounting information systems, industrial companies, Jordan

1. Introduction

The world has recently witnessed rapid developments in the business and technology world and developments in administrative, accounting, and financial information systems to enable companies to control the huge amount of the required information. Among the most significant of these systems is the accounting information system thanks to the management's need for it to make its decisions. Accounting information systems qualify users to get rid of the problems associated with data processing, convert it into useful information that helps in planning, controlling, monitoring, reducing, and detailing costs, identifying its source and easily tracking it, and providing a clear database for it. Also, the provision of accounting information has the effect of enhancing advanced planning and direct control of financial and accounting operations (Al-Sayed, 2018).

Because of these developments, the need for internal audit in institutions is now very necessary due to the difficulty in controlling it, as it is considered one of the most important control instruments in companies. Therefore, the need to strengthen and develop internal audits has increased to avoid errors and deviations by imposing control instruments on the accounting information system. The accounting information system has also become essential for every organization to keep pace with the continuous developments, as accounting information systems are considered one of the most important systems that contribute to the rationalization of decisions (Faris, 2020).

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

The audit committee enhances users' confidence in the data and quality of the financial statements through the role of the audit committee in enhancing the independence of the internal auditor, supporting the internal control system, and improving the integrity of the financial statements. One of the key tasks of the audit committee is to control the relationship between management and the external auditor in a way that encourages its independence and integrity. Since the audit committee is responsible for supervising the audit process, including the appointment, remuneration, and termination of the contract with the external auditor, this committee must have high characteristics, as the characteristics of the audit committee have a significant impact on the quality of its performance and internal control (Kashkash & Dirgham, 2021). With this introduction, the characteristics of the audit committee, internal audit, and components of accounting information systems, the related studies are provided in the next part.

2. Research Problem

The components of accounting information systems are very significant in industrial and commercial companies due to their importance in increasing the effectiveness and components of corporate control. In the same context, accounting information is one of the basics of business success to maintain its survival and continuity. Accounting information systems are one of the basic component sof the company, as they provide the management with information and data used to identify the company's trends and measure the extent to which its objectives are achieved.

Likewise, accounting information identifies performance trends, as it works to activate the role of internal audit, which is considered one of the most important functions of the company because of its importance in detecting deviations, limiting fraud and deception, and serving management to contribute to making sound decisions. With the rapid developments in the business world, companies now work to improve the components of accounting information systems, as they are considered the main support for making financial decisions and knowledge of the company's financial position, and the integrity of accounting information, which means the integrity of decisions taken based on this information. Internal audit, therefore, is the best way to ensure the components of accounting information systems. Since the audit committees have a set of characteristics that affect the quality of the internal audit, the research problem lies in identifying the impact of the characteristics of the audit committee as a moderating variable in the relationship between internal audit and the components of accounting information systems in the ASE-listed industrial companies.

3. Research Questions

Given the research problem, the research questions are:

The first main question: Does the internal audit have an impact on the components of accounting information systems and their dimensions (physical components, human resources, accounting information, and feedback) in ASE-listed industrial companies?

The first main question comprises four sub-questions:

The first sub-question: Does the internal audit have an impact on the components of the physical components of the ASE-listed industrial companies?

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

The second sub-question: Does the internal audit have an impact on the components of human resources in ASE-listed industrial companies?

The third sub-question: Does the internal audit have an impact on the quality of accounting information in ASE-listed industrial companies?

The fourth sub-question: Does the internal audit have an impact on the components of feedback in the ASE-listed industrial companies?

The second main question: Do the characteristics of the audit committee have an impact on the relationship between internal audit and the components of accounting information systems in ASE-listed industrial companies?

4. Research Objectives

The following research objectives are articulated to answer the research questions:

1. Pinpoint the impact of internal audit on the components of accounting information systems and their dimensions (physical components, human resources, accounting information, and feedback) in the ASE-listed industrial companies.

a. Identify the impact of internal audit on the components of the physical components of the ASE-listed industrial companies .

b. Pinpoint the impact of internal audit on the components of human resources in the ASE-listed industrial companies.

c. Examine the impact of internal audit on the quality of accounting information in ASE-listed industrial companies.

d. Explore the impact of internal audit on the components of feedback in the ASE-listed industrial companies.

2. Recognize the characteristics of the audit committee have an impact on the relationship between internal audit and the components of accounting information systems in ASE-listed industrial companies.

5. Research Hypotheses

Based on the research questions and objectives, and research problem, the following hypotheses are formulated:

H_{0.1}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit on the components of accounting information systems and their dimensions (physical components, human resources, accounting information, and feedback) in the ASE-listed industrial companies.

The first main hypothesis consists of the following sub-hypotheses:

H_{0.1.1}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit on the efficiency of the physical components of the ASE-listed industrial companies.

H_{0.1.2}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit on the efficiency of human resources in the ASE-listed industrial companies

H_{0.1.3}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit on the efficiency of accounting information in the ASE-listed industrial companies.

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

H_{0.1.4}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit in the efficiency of feedback in the ASE-listed industrial companies.

H_{0.2}: There is no statistically significant impact at the significance level of ($\leq 0.05\alpha$) for the characteristics of the audit committee in the relationship between internal audit and the efficiency of accounting information systems in the ASE-listed industrial companies.

6. Research Limitations

The findings of this study can be generalized in light of the following limitations:

Human Limitations: This study is limited to a sample of the administrative staff and internal auditors in (57) Jordanian industrial companies.

Spatial Limitations: This study is conducted in several ASE-listed industrial companies.

Temporal Limitations: This study is conducted in the first semester of the academic year 2022/2023.

Objective Limitations: This study is limited to discussing the impact of the characteristics of the audit committee as a moderating variable in the relationship between internal audit and the components of accounting information systems in ASE-listed industrial companies.

7. Previous Studies & Work

Much work and studies demonstrate the competence of electronic accounting information systems in attaining the quality of financial reports. Shnaishel (2022) identifies the efficiency of electronic accounting information systems in achieving the quality of financial reports in Iraqi banks. The descriptive analytical approach is adopted to achieve the research objectives. The study sample consists of (136) accountants in Iraqi banks. The study consisted of three domains as follows: accounting information systems achieving the correlation feature in financial reports, accounting information systems achieving reliability in financial reports, and accounting information systems achieving stability and comparison characteristics of financial reports and data. The data are also analyzed using the Statistical Package for the Social Sciences (SPSS). The findings indicate that the electronic accounting information systems in Iraqi banks achieve the quality of the financial reports issued by them. It is also found that the qualitative characteristics of accounting information are achieved in the information contained in the quality of financial reports issued by the systems applied in Iraqi banks to varying degrees.

Rajam (2021) evaluates the contribution of the use of information and communication technology to the efficiency of the internal audit process at the National Corporation for Well Services. The interview instrument is used as a study instrument with the audit manager. A questionnaire is distributed to a sample of six internal auditors at the Audit Directorate in the institution under study. The data included in the questionnaire are analyzed by using the Statistical Package for the Social Sciences (SPSS) based on means, standard deviation, Cronbach coefficient, and Spearman correlation coefficient. The findings show that the organization has all components of information and communication technology “hardware,

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

software, networks” in its various dimensions. The findings also indicate no strong impact of information technology on the efficiency and quality of internal audits due to the small percentage of use of information technology, whether in the audit function or even some other functions.

On a parallel line, Yusuf and Kanji (2020) analyze the impact of internal audit and accounting information systems on the auto trading company PT Kars IntiAmanah, which provides a perspective to the management of similar companies on the ability to accounting information systems and internal audit to increase the effectiveness of internal control. The study population includes all (PTKIA) employees and a sample of 67 persons is selected using a simple random sampling technique so that 40 samples are selected. This study uses the quantitative approach with descriptive statistical analysis to determine the value of the respondents' answers and the multiple regression analysis to examine the effect between internal audit variables and accounting information systems on the effectiveness of internal control. The results of the descriptive statistical analysis show the total value of the products that internal audit and accounting information systems include a positive and significant impact on the effectiveness of internal control in PT Kars IntiAmanah.

At the same level, Ashraf et al. (2020) examine whether information technology expertise on audit committees affects the reliability and timeliness of financial reports. The findings show a reduced likelihood of physical rework, a low likelihood of IT-related physical vulnerabilities which account for 55 percent of all reported physical vulnerabilities, and timely earnings announcements in companies with IT audit committee expertise. These results are robust for controlling for other IT attributes of a company and when using entropy-balanced samples. These findings mitigate concerns of heterogeneity by the evidence that the said results are found in a sub-sample of firms that all have generally high-quality IT. Lastly, variance-by-variance analysis, the inclusion of firm constant effects, and fraud testing largely support the assertion that the quality of financial reporting is significantly improved by the presence of an IT expert on the audit committee.

Moreover, Al-Waeli et al. (2020) examine the impact of the accounting information system on financial performance with the role of internal control as a mediator. The information collected from (90) questionnaires is distributed to selected employees in (18) industrial companies. The results indicate a significant effect of punctuality, accuracy, and verification on financial performance, while there is no significant effect on the adequacy of financial performance. It is found that the internal control is positively moderate between the close relationship, accuracy, and financial performance, as the system of moderate internal control does not show any effect on the relationship between verification, timing, and financial performance. This study suggests that management should develop better strategies that can ensure the effectiveness and efficiency of internal control. The effectiveness of the accounting information system also improves the financial performance of companies. The study contributes to the field of knowledge by supporting the relationship between the accounting

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

information system and financial performance using internal control as a mediator. The current research gap in the context of industrial firms has been filled by this study by providing a new theoretical approach and management basis for future studies.

Besides, Faris (2020) identifies internal audit because of its importance within the organization and the accounting information system by addressing its components and various functions, while clarifying the relationship between them and highlighting the role that internal audit plays in developing the accounting information system. The descriptive and analytical approaches are used in studying and analyzing the questionnaire to achieve the research objectives. The study concludes that internal audit has a role in developing the accounting information system by imposing control on its various components and components and following up on its stages of development. The study also shows the internal audit identifies gaps, errors, strengths, and weaknesses, and this leads to improving the accounting information of the organization and controlling its performance by making appropriate and timely decisions.

Furthermore, Al-Maani (2019) explores the impact of accounting information systems and their dimensions “hardware and equipment, employee skills, quality of accounting information, and feedback” on planning and cost control in Jordanian pharmaceutical companies. The analytical descriptive approach is used through a questionnaire distributed to (86) administrative employees in Jordanian pharmaceutical companies. The Statistical Package for the Social Sciences (SPSS) is used to analyze the responses of the study sample. The study shows a positive significant effect of accounting information systems on cost planning and a positive significant effect of accounting information systems on cost control. The study recommends working on the practice of feedback for standard cost reports and comparing them with the actual ones, as it contributes to controlling spending because it is the least influential dimension of accounting systems in planning and cost control.

Al-Suraihi (2019) determines the impact of the characteristics of the audit committee on the quality of the external auditor’s report in the Republic of Yemen. The questionnaire as a main instrument for data collection is used to achieve the research objectives. 300 questionnaires are distributed and 250 are retrieved for analysis with a response rate of 89.67%. The Statistical Packages for Social Sciences (SPSS) is used to analyze the data. Through the multiple regression test, the results show a positive effect of the characteristics of the audit committee “the independence of the audit committees, the experience of the audit committee, the size of the audit committee, the meetings of the audit committee, and the awareness of the responsibility of the audit committee” on the quality of the external auditor's report. In other words, the more these characteristics are available to the members of the audit committee, the higher their positive impact on the quality of the external auditor's report. The study shows that the members of the committee have increased their interest in determining the fees of external auditors to maintain their independence, the need for audit offices and companies and the Central Organization for Accounting and Control in the Republic of Yemen to develop the

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

capabilities of their members to increase their qualification, and keep abreast of all that is modern in the audit profession, which contributes to its development and enhance confidence in it and work to produce quality reports.

In the same context, Oussii and Taktak (2018) investigate the relationship between internal audit function (IAF) characteristics and internal control quality using data collected from 59 chief audit executives of Tunisian-listed companies. The regression model is used to examine the research hypothesis regarding the association between IAF characteristics and the quality of internal control. The results reveal that the quality of internal control is closely and positively related to the efficiency of the IAF, the level of internal audit quality control assurance and follow-up process, and the participation of the audit committee in reviewing the internal audit program and its results. Given this review of the related studies and research work on the concept of characteristics of the audit committee and its impact on the relationship between internal audit on the components of the accounting information system, the research problem is provided in the following section.

7. Theoretical Framework

The Concept of Internal Audit (IA)

Interest in the internal audit has recently increased after many scandals of international and local companies, especially after the 2008 global financial crisis and the subsequent research and studies to determine the most prominent factors and reasons leading to its occurrence (Abu Nassar, 2019). The internal audit is the process of internal audit as an independent function established within the organization to examine and evaluate the activities and help the organization's employees to see the implementation and fulfillment of all their responsibilities effectively and efficiently to serve the community (Al-Quraishi, 2019). According to the Institute of Internal Auditors in the framework of international professional practice, an internal audit is an independent and objective activity to improve the operations of the organization to achieve its goals by preparing a structured and disciplined approach to assess and increase the effectiveness of control over the completeness of financial information and operations and thus make a significant contribution to the achievement of successful business goals (Dinh, 2020).

The Concept of Accounting Information Systems (AIS)

Accounting information systems are regarded as a unified structure that helps in employing human and physical resources such as accounting software and devices able to deal with a huge amount of data and process it to convert accounting data that has no value into accounting information that can have effects to enhance a decision (Wahdan, 2017). The accounting system is defined as "the processes and systems that capture accounting data from business operations, as well as recording accounting data in appropriate records, processing detailed accounting data through classification, summarization, and merging, and reporting on summarized accounting data to internal and external users" (Turner et al., 2017, p. 1).

Moreover, the accounting system is a group of financial and human resources that interact with each other to produce useful accounting information and communicate it to decision-

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

makers to help them rationalize their decisions (Ghadairi, 2018). The use of accounting information systems in most financial transactions is reflected in the preparation of financial statements, and the provision of data necessary to perform administrative functions, and this confirms the importance of accounting information systems. Hence, the significance of accounting information systems is evident in enabling the departments of organizations and institutions to carry out all their accounting, financial and administrative functions alike, and this is what makes the organization distinct, achieves its competitive advantage, and provides a better quality of service (Naseer, 2018).

Accounting information systems consist of a set of components that help achieve the main objective of the systems, and none of the following components can be ignored:

Physical Components: They are considered the infrastructure of accounting information systems, as they include equipment, computers, and external media that help the system to function properly (Kinani, 2022).

Human Resources: They are one of the most significant components of systems because they work on the use of accounting systems in their various functions. The importance of human resources is reflected in the important role in the operation process and the completion of the required appropriate data entry operations (Dirani et al., 2020).

Accounting Information: It is data about the transactions of a business entity from purchasing inventory and machinery to entering into long-term construction contracts. Events that occur in business operations are often translated into accounting information (Gofwan, 2022).

Feedback: It is considered one of the most important components of any information system. The accounting information system, in turn, benefits from feedback that enables it to evaluate its outputs represented in accounting information by following up and implementing decisions reached based on that information or through various responses of its users about it (Ali, 2019).

The International Audit Standards Council (ISAC 31) stipulates that the effectiveness of internal audit is not the only element that can determine the success of internal control, as internal control cannot work on controlling and evaluating risks related to information and communication activities without the availability of an accounting information system that supports audit and its follow-up (Schandl & Foster, 2018). The development of any organization requires accountability and transparency in its management, which makes it essential to implement an effective internal control system to produce high-quality, relevant, and reliable financial reports that can be used for corporate decision-making. The company can issue high-quality financial reports if there is an internal control system that supports them, and the accounting information system plays a key role in managing information about transactions related to its various activities (Ardhiani et al., 2020).

The Concept of Audit Committees (AC)

The audit committees have a set of specific characteristics that help in achieving the effectiveness of the performance of these committees, especially when performing the tasks efficiently and effectively. The required characteristics are as follows:

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

Audit Committee Size: Audit committees must have sufficient resources and authority to fulfill the required tasks and responsibilities increasingly. The size of the audit committee is an important factor, as the larger the size of the audit committee, the greater the possibility of detecting and resolving potential problems in the financial reporting process because it provides the necessary strength and diversity of opinions and expertise to ensure effective control. The size of the audit committee also helps to reduce the amount of fraud and falsification in the financial statements, and the larger audit committee is likely to suffer from operational losses and the spread of responsibility (Mishra & Malhotra, 2016).

Independence of the Audit Committee: The independent audit committee works to enhance internal control in institutions, mitigate conflicts of interest, ensure the effectiveness and reliability of financial reports, mitigate personal motives of managers, and manipulate financial statements for personal interests, as the availability of an independent audit committee will enhance the provision of information for the benefit of investors comprehensively and of high quality (Alderman & Jollineau, 2020).

The Financial Experience of the Members of the Audit Committee: Recent studies have emphasized the need to form an audit committee of members with experience in a large number of reports. The audit committee should consist of members with knowledge of the business environment, and at least one member of the audit committee should have recent and relevant financial experience (Yassin, 2021).

The number of Audit Committee Meetings: Audit committees that meet more frequently have more time to perform the monitoring role of the corporate reporting process more efficiently. Inactive audit committees also do not effectively monitor management because it is difficult to detect fraud or accounting irregularities in a large and complex company. Accordingly, members should be willing to devote more of their time to audit issues related to the company (Osemene & Facile, 2019).

Percentage of Members of the Audit Committee Owning Shares: Increasing the percentage of members of the audit committee owning shares of the company helps in improving the process of preparing financial reports for the company and reduces the opportunity for misleading and fraud in the financial reports because the increase in the percentage of members of the audit committee owning shares motivates them to monitor the management and take interest in the results of the company. Also, the ownership of the audit committee members of the company's shares may lead to an increase in the possibility that the committee will collude with the management to protect their interests, and thus may weaken their independence, affecting the reduction of the quality of financial reports (Shbeita & Al-Shatnawy, 2020).

The Role of Audit Committees in Protecting Shareholders and Stakeholders: Investors rely on the audit committee to assess the credibility of earnings; however, the role of audit could be strengthened in the context of strong firms. This committee can fulfill its duties more efficiently, especially since more efficient governance practices are associated with a strong organization. Thus, the effectiveness of the audit committee and the institutional strength may complement each other in enhancing investors' confidence in the profits disclosed by the different companies by focusing on the independence of the audit committee. To prevent

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

managers from engaging in opportunistic behavior, agency theory recommends that companies establish an audit committee as one of their governance mechanisms (Poretti et al., 2017).

8. Method

This section includes an analysis of the characteristics of the demographic sample:

Characteristics of the Demographic Sample

The questionnaire consists of several demographic variables, namely: academic qualification, job title, and the number of years of experience in the current work. Table (1) presents a brief description of the sample of the participants.

Table 1

Description of the Demographic Characteristics of the Study Sample

Variable	Percentage	Frequency	Categories
Academic Qualification	Diploma	27	11.7
	Bachelor's Degree	111	48.1
	Master's Degree	66	28.6
	Ph.D.	27	11.7
	Total	231	100.0
Job Title	Manger	17	7.4
	finance Auditor	56	24.2
	Head of the Department	62	26.8
	Accountant	96	41.6
	Total	231	100.0
Number of Years of Experience the Current Work	Less Than 5 Years	84	36.4
	From 5 to Less Than 10 Years	30	13.0
	From 10 to Less than 15 Years	48	20.8
	15 Years and Above	69	29.9
	Total	231	100.0

Table (1) shows the results of the analysis of the demographic characteristics of the study sample as follows:

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

Academic Qualification

The vast majority of the participants hold a bachelor's degree with (111) participants with a percentage of (48.1%). The master's degree is ranked second in terms of the number of participants in the questionnaire with (66) participants with a percentage of (28.6%). The degrees of diploma and Ph.D. are ranked third with (27) participants with a percentage of (11.9%).

Job Title

As shown in Table (1), the largest number of participants hold the job title of an accountant is with (96) with a percentage of (41.6%), while the lowest percentage of participants with the job title of manager is (17), with a percentage of (7.4%) of the total study sample.

Number of Years of Experience in the Current Work

The highest percentage of the experience of the participants is the category of less than (5) years with (84) participants, with a percentage of (36.4%), while the lowest number of participants who have from 5 to less than 10 years is (30) participants, with a percentage of (13%) of the total study sample.

9. Hypotheses Testing

A simple linear regression analysis is used to test the hypotheses. The results are as follows:

Results Related to the First Main Question: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit on the components of accounting information systems and their dimensions (physical components, human resources, accounting information, and feedback) in the ASE-listed industrial companies.

The first main hypothesis consists of the following sub-hypotheses:

H_{0.1.1}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit on the efficiency of the physical components of the ASE-listed industrial companies.

Table 2

Simple Linear Analysis to Test the First Sub-Hypothesis

Independent Variable	Model Summary		ANOVA		Coefficients Table				
	R	R ²	Calculated F	F.Sig	Item	Standard Error	Beta	Calculated T	T. Sig
Internal Audit	0.449	0.201	57.713	0.000	Physical Components	0.429	0.056	7.597	0.000

***The impact is statistically significant at the level ($\alpha \leq 0.05$).**

As shown in Table (2), the impact of the linear correlation is direct between the internal audit and the physical components, as the value is ($R=0.449$), and this means that there is a positive relationship between the (internal audit) dimension and (the physical components). It is also shown that the value of the determination coefficient is ($R^2=0.201$), and this means that the

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

(internal audit) dimension has explained (20.1%) of the variation in (the efficiency of the physical components), while the other factors remain constant as they are.

Also, the value of (F) is (57.713) at the level of confidence (sig = 0.000), and this confirms the significance of the regression at the level of significance ($\alpha \leq 0.05$). The table of coefficients also shows that the value of (B) is (0.429) and the value of (T) is (7.597) at the level of confidence (sig = 0.000), and this confirms the significance of the coefficient at the level ($\alpha \leq 0.05$). In light of the foregoing results, the null hypothesis is rejected and the first alternative sub-hypothesis stipulating "there is a statistically significant impact at the significance level $\alpha \leq 0.05$ (internal audit) on the efficiency of the physical components in the ASE-listed industrial companies" is accepted.

H_{0.1.2}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit on the efficiency of human resources in the ASE-listed industrial companies.

Table 3

Simple Linear Analysis to Test the Second Sub-Hypothesis

Independent Variable	Model Summary		ANOVA		Coefficients Table				
	R	R ²	Calculated F	F. Sig	Item	Standard Error	Beta	Calculated T	T. Sig
Internal Audit	0.656	0.430	172.671	0.000	Human Resources	0.532	0.040	13.140	0.000

***The impact is statistically significant at the level ($\alpha \leq 0.05$).**

As shown in Table (3), the impact of the linear correlation is direct between internal audit and human resources, as the value is (R=0.656), and this means that there is a positive relationship between the (internal audit) dimension and (human resources). It is also shown that the value of the determination coefficient is (R²=0.430R), and this means that the (internal audit) dimension has explained 43% of the variation in (human resource efficiency), while the other factors remain constant as they are. Besides, the value of (F) is (175.671) at the level of confidence (sig = 0.000), and this confirms the significance of the regression at the level of significance ($\alpha \leq 0.05$). Moreover, the coefficients table shows that the value of (B) is (0.532) and the value of (T) is (13.140) at the level of confidence (sig = 0.000), and this confirms the significance of the coefficient at the level ($\alpha \leq 0.05$). In light of the foregoing results, the null hypothesis is rejected and the first alternative sub-hypothesis stipulating "there is a statistically significant impact at the significance level $\alpha \leq 0.05$ of (internal audit) on the efficiency of the human resources in the ASE-listed industrial companies" is accepted.

H_{0.1.3}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit on the efficiency of accounting information in the ASE-listed industrial companies.

Table 4

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

Simple Linear Analysis to Test the Third Sub-Hypothesis

Independent Variable	Model Summary		ANOVA		Coefficients Table				
	R	R ²	Calculated F	F. Sig	Item	Standard Error	Beta	Calculated T	T. Sig
Internal Audit	0.745	0.556	286.493	0.000	Accounting Information	0.561	0.033	16.926	0.000

***The impact is statistically significant at the level ($\alpha \leq 0.05$).**

As shown in Table (4), the impact of the linear correlation is direct between internal audit and accounting information, as the value is ($R=0.745$), and this means that there is a positive relationship between the (internal audit) dimension and (human resources). It is also shown that the value of the determination coefficient is ($R^2=0.556$), and this means that the (internal audit) dimension has explained 43% of the variation in (accounting information efficiency), while the other factors remain constant as they are. Besides, the value of (F) is (286.493) at the level of confidence ($\text{sig} = 0.000$), and this confirms the significance of the regression at the level of significance ($\alpha \leq 0.05$). Moreover, the coefficients table shows that the value of (B) is (0.561) and the value of (T) is (16.926) at the level of confidence ($\text{sig} = 0.000$), and this confirms the significance of the coefficient at the level ($\alpha \leq 0.05$). In light of the foregoing results, the null hypothesis is rejected and the first alternative sub-hypothesis stipulating "there is a statistically significant impact at the significance level $\alpha \leq 0.05$ of (internal audit) on the efficiency of the accounting information in the ASE-listed industrial companies" is accepted.

H_{0.1.4}: There is no statistically significant impact at the significance level of ($\alpha \leq 0.05$) of internal audit in the efficiency of feedback in the ASE-listed industrial companies.

Table 5

Simple Linear Analysis to Test the Fourth Sub-Hypothesis

Independent Variable	Model Summary		ANOVA		Coefficients Table				
	R	R ²	Calculated F	F. Sig	Item	Standard Error	Beta	Calculated T	T. Sig
Internal Audit	0.681	0.464	198.107	0.000	Feedback	0.544	0.039	14.075	0.000

***The impact is statistically significant at the level ($\alpha \leq 0.05$).**

As shown in Table (5), the impact of the linear correlation is direct between internal audit and accounting information, as the value is ($R=0.681$), and this means that there is a positive

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

relationship between the (internal audit) dimension and (feedback). It is also shown that the value of the determination coefficient is ($R^2=0.464$), and this means that the (internal audit) dimension has explained 46.4% of the variation in (feedback efficiency), while the other factors remain constant as they are. Besides, the value of (F) is (198.107) at the level of confidence ($\text{sig} = 0.000$), and this confirms the significance of the regression at the level of significance ($\alpha \leq 0.05$). Moreover, the coefficients table shows that the value of (B) is (0.544) and the value of (T) is (14.275) at the level of confidence ($\text{sig} = 0.000$), and this confirms the significance of the coefficient at the level ($\alpha \leq 0.05$). In light of the foregoing results, the null hypothesis is rejected and the first alternative sub-hypothesis stipulating "there is a statistically significant impact at the significance level $\alpha \leq 0.05$ of (internal audit) on the efficiency of the feedback in the ASE-listed industrial companies" is accepted.

Ho.2:Ho.2: There is no statistically significant impact at the significance level of ($\leq 0.05\alpha$) for the characteristics of the audit committee in the relationship between internal audit and the efficiency of accounting information systems in the ASE-listed industrial companies.

To test this hypothesis, Hierarchical Multiple Regression analysis is used, as shown in Table (6).

Table 6

Simple Linear Analysis to Test the Second Main Hypothesis

Dependent Variable	Independent Variable	Model 1			Model 3		
		β	Calculated T	Sig*	β	Calculated T	Sig*
Accounting Information Systems	Internal Audit	0.780	16.777	0.000	-		
	Internal Audit × Characteristics of the Audit Committee	-			0.579	12.224	0.000
	R	0.743			0.854		
	R^2	0.551			0.729		
	ΔR^2	0.549			0.727		
	ΔF	281.469			306.656		
	Sig. ΔF	0.000			0.000		

The impact is statistically significant at the level ($\alpha \leq 0.05$).

Table (6) shows the results of the hierarchical multiple regression analysis based on two models, as the results of the first model indicate that the correlation value is ($R = 0.743$), demonstrating a positive correlation between internal audit and accounting information systems. The results also show a statistically significant impact of the variable of the characteristics of the audit committee on the accounting information systems, where the value is ($F = 161.683$) and the significance level is ($\text{Sig} = 0.000$), which is less than (0.05).

Besides, the value of the determination coefficient is ($R^2 = 0.551$), meaning that the value of (0.551) of the changes in the accounting information systems has resulted from the change in the internal audit. The effect score value is ($B = 0.780$), which means that an increase of one

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

degree in the level of interest in internal audit leads to an increase in the efficiency of accounting information systems by a value of (0.780). This indicates that internal audit is (64.1%) of the variation in the efficiency of accounting information systems.

In the second model, the moderating variable (audit committee characteristics) is introduced into the regression model, as the value of the correlation coefficient has increased to become ($R = 0.845$). The same applies to the value of the coefficient of determination R^2 , as it increases by (48.7%), and this percentage is statistically significant. The change in the value of F is (281.469), and the significance level is ($\text{Sig} = 0.000$), which is less than (0.05).

Also, the effect score value β is (0.579) at the moderating variable (audit committee characteristics), and the calculated T value is (12.224) with a significance level ($\text{Sig} = 0.000$), and this confirms the significant role of the moderating variable (audit committee characteristics) in improving the impact of internal audit on the efficiency of accounting information systems. The percentage of interpretation of the variance obtained in the efficiency of accounting information systems is also improved by (551%), increasing from (54.9%) to (72.7%). Accordingly, the null hypothesis is rejected, and the second main alternative hypothesis, stipulating "there is statistically significant impact at the significance level of ($\leq 0.05\alpha$) for the characteristics of the audit committee in the relationship between internal audit and the efficiency of accounting information systems in the ASE-listed industrial companies" is accepted.

References

Books:

- Turner, L., Weickgenannt, A. B., & Copeland, M. K. (2020). Accounting information systems: controls and processes. John Wiley & Sons.
- Wahdan, M. (2017). Accounting Information Systems, Contemporary Introduction, 1st Edition, Dar Al-Obaid for Publishing and Distribution, Cairo.

Journal Articles:

- Alderman, J., & Jollineau, S. J. (2020). Can audit committee expertise increase external auditors' litigation risk? the moderating effect of audit committee independence. *Contemporary Accounting Research*, 37(2), 717-740.
- Al-Waeli, A. J., Hanoon, R. N., Ageeb, H. A., & Idan, H. Z. (2020). Impact of accounting information system on financial performance with the moderating role of internal control in Iraqi industrial companies: An analytical study. *Jour of Adv Research in Dynamical & Control Systems*, 12(8), 246-261.
- Al-Suraihi, S. (2019). The impact of the characteristics of the audit committee on the quality of the report of the external auditor in the Republic of Yemen: a field study. *Journal of Economic and Administrative Sciences*, 20(2), 130-150.
- Ardhiani, M. R., Sukandani, Y., Istikhoro, S., & Sasmita, Y. (2020). Analysis of Cash Expenditure Effectiveness through the Accounting Information System of PT. Telkom Indonesia Regional Division V. *International Journal of Economics, Business and Accounting Research (IJEBAAR)*, 4(03), 20-39.

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

Ashraf, M., Michas, P. N., & Russomanno, D. (2020). The impact of audit committee information technology expertise on the reliability and timeliness of financial reporting. *The Accounting Review*, 95(5), 23-56.

Dinh, The Hung (2020). Factors Affecting the Internal Audit Effectiveness of steel enterprises in Vietnam. *Journal of Asian Finance, Economics, and Business*, 1(8), 271-283.

Kashkash, M & Dirgham, M. (2021). The impact of audit committee characteristics on earnings management: An applied study on banks listed on the Palestine Exchange. *Journal of the Islamic University for Economic and Administrative Studies*, 29(3), 132-160.

Mishra, M., & Malhotra, A. K. (2016). Audit committee characteristics and earnings management: Evidence from India. *International Journal of Accounting and Financial Reporting*, 6(2), 247-273.

Osemene, O. F., & Fakile, O. G. (2019). Effectiveness of audit committee and financial performance of deposit money banks in Nigeria. *Fountain University Osogbo Journal of Management*, 3(3), 30-44.

Shbeita, F & Al-Shatnawy, H. (2020). The impact of the characteristics of the audit committees on the efficiency of the intellectual capital in the Jordanian commercial banks: An applied study. *Journal of the Islamic University for Economic and Administrative Studies*, 28(1), 12-24.

Shnaishel, T. S. (2022). The Efficiency of Electronic Accounting Information Systems in Achieving the Quality of Financial Reports in Iraqi Banks. *American Journal of Economics and Business Management*, 5(7), 208-219.

Yusuf, M., & Kanji, L. (2020). Effect of internal audit and accounting information system on the effectiveness of internal control. *ATESTASI: Jurnal Ilmiah Akuntansi*, 3(2), 120-125.

Unpublished Master's Theses:

Abu Nassar, A. (2019). Factors affecting audit fatigue and their impact on audit quality: An empirical study of industrial public shareholding companies listed on the Amman Stock Exchange. [Unpublished Master's Thesis]. Middle East University, Jordan.

Ali, D. (2019). The role of continuous review in reducing the risks of accounting information systems: A field study on Sudanese Faisal Islamic Bank and Nile Bank. [Unpublished Master's Thesis]. Al-Neelain University, Khartoum.

Al-Maani, S. (2019). The impact of accounting information systems on planning and cost control: An applied study on Jordanian pharmaceutical companies. [Unpublished Master's Thesis]. Al-Israa Private University.

Al-Quraishi, Z. (2019). The impact of the quality of internal audit on inventory accounts, a case study of the Municipality of Baghdad in Iraq. [Unpublished Master's Thesis]. Al al-Bayt University, Mafraq.

Al-Sayed, K. (2018). The impact of the components of accounting information systems on control activities and their environment in the service sector: An applied study. [Unpublished Master's Thesis]. Al-Israa Private University.

The Impact of the Characteristics of the Audit Committee as a Moderating Variable in the Relationship between Internal Audit on the Components of Accounting Information System (AIS) the Industrial Companies Listed on the Amman Stock Exchange

Ghadairi, E. (2018). Evaluation of the role of accounting information systems in enhancing the quality of financial information: A field study of a sample of professionals. [Unpublished Master's Thesis]. KasdiMerbah University - Ouargla, Ouargla.

Faris, A. (2020). The role of internal audit in developing the accounting information system, a questionnaire study. [Unpublished Master's Thesis]. Larbi Ben M'hidi University, Oum El-Bouaghi.

Kinani, A. (2022). The impact of the effectiveness of accounting information systems on the efficiency of analytical procedures according to the International Standard on Audit (520) from the point of view of Jordanian chartered accountants. [Unpublished Master's Thesis]. Al al-Bayt University, Mafrq.

Naseer, A. (2018). The role of computerized accounting information systems in enhancing the efficiency of administrative decisions in Jordanian University Hospitals. [Unpublished Master's Thesis]. Jadara University, Jerash, Jordan.

Yassin, R. (2021). The role of the characteristics of audit committee in reducing the lack of financial statements in the annual reports of Jordanian commercial banks. [Unpublished Master's Thesis]. Middle East University, Amman.

Other References:

Oussii, A. A., & Taktak, N. B. (2018). The impact of internal audit function characteristics on internal control quality. *Managerial Auditing Journal*.

Poretti, C., Schatt, A., & Bruynseels, L. (2017). Audit committees' independence and the information content of earnings announcements in Western Europe. *Journal of Accounting Literature*, 1(1), 10-23.

Gofwan, H. (2022). Effect of accounting information system on the financial performance of firms: A review of the literature. Department of Accounting (Bingham University)-2nd Departmental Seminar Series with the Theme–History of Accounting Thoughts. A Methodological Approach, 2(1), 22-40.