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**TOKAT GAZIOSMANPAŞA UNIVERSITY
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**THE IMPACT OF USING INFORMATION TECHNOLOGIES ON
THE QUALITY OF INDEPENDENT AUDITING**

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Master Thesis

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SCIENTIFIC ETHICS PAGE

According to the thesis writing guide of Tokat Gaziosmanpaşa University, Institute of Graduate Education, My Master's "The Impact of Using Information Technologies on the Quality of Independent Auditing" I have prepared under the consultancy of "Asst. Prof. Dr. Atila KARKACIER" "is based on scientific ethical values and rules. I hereby declare that it is an appropriate, original work, and I will accept any legal sanctions if it is determined otherwise.

02 /02/ 2024

Ramadhan Mohammed SALEEM

JURY ACCEPTANCE AND APPROVAL PAGES

The defense exam of the thesis study titled “**The Impact of Using Information Technologies on the Quality of Independent Auditing**” prepared by **Ramadhan Mohammed SALEEM** was held on 02.02.2024. It was accepted unanimously as a Master’s Thesis in Tokat Gaziosmanpaşa University Graduate Education Institute, Department of Business Administration-Accounting and Finance Department, by the jury given below.

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Director of the Graduate Education Institute

DEDICATION

I am grateful to dedicate this master' study to family and many friends. A special feeling of gratitude to my loving parents, may God protect them and bless them long life.

In addition, I proudly dedicate this study to my brothers and sisters, they are never left by my side and are very special. Furthermore, which taught me throughout my educational career and enlightened me on the path of science and knowledge.

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ABSTRACT

THE IMPACT OF USING INFORMATION TECHNOLOGIES ON THE QUALITY OF INDEPENDENT AUDITING

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This study aims to examine the impact of information technology use on independent audit processes. Information technologies are critical in independent auditing as they support a more effective, reliable, and cost-effective audit process. With the rapid evolution of information technology, the focus is on how traditional approaches to independent auditing have changed and the effects of information technology on audit efficiency, accuracy, and reliability. In this regard, data was obtained using the survey technique from auditors in auditing companies operating in Duhok, Erbil, and Sulaymaniyah in the north of Iraq. Frequency analysis, t-test, and One-Way ANOVA were applied to the collected data with the help of SPSS. As a result of the analyses, it was concluded that the use of information technology significantly contributes to increasing audit quality. However, information technology provides the most significant positive impact on implementing analytical procedures. On the other hand, the effect of information technology is more limited at the stage of completing the audit process and preparing the auditor's report.

KEYWORDS

Independent Audit, Information Technology (IT), Quality of Independent Audit, Audit Process

ÖZET

BİLGİ TEKNOLOJİLERİNİN KULLANIMININ BAĞIMSIZ DENETİM KALİTESİNE ETKİSİ

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Bu çalışmanın amacı bilgi teknolojisi kullanımının bağımsız denetim süreçleri üzerindeki etkisinin incelenmesidir. Bilgi teknolojileri, daha etkili, güvenilir ve uygun maliyetli bir denetim sürecini desteklemesi nedeniyle bağımsız denetimde kritik öneme sahiptir. Bilgi teknolojisinin hızlı gelişimiyle birlikte bağımsız denetime yönelik geleneksel yaklaşımların nasıl değiştiği ve bilgi teknolojisinin denetim verimliliği, doğruluğu ve güvenilirliği üzerindeki etkileri üzerinde durulmaktadır. Bu doğrultuda Irak'ın kuzeyinde Duhok, Erbil ve Süleymaniye'de faaliyet gösteren denetim şirketlerindeki denetçilerden anket tekniği kullanılarak veriler elde edilmiştir. Toplanan verilere SPSS yardımıyla frekans analizi, t-testi ve One-Way ANOVA uygulanmıştır. Analizler sonucunda bilgi teknolojisi kullanımının denetim kalitesinin arttırılmasına önemli katkı sağladığı sonucuna varılmıştır. Bununla birlikte bilgi teknolojisi, analitik prosedürlerin uygulanmasında en büyük pozitif etkiyi sağlamaktadır. Diğer taraftan, denetim sürecinin tamamlanması ve denetçi raporunun düzenlenmesi aşamasında ise bilgi teknolojisinin etkisi daha sınırlıdır.

ANAHTAR KELİMELER

Bağımsız Denetim, Bilgi Teknolojisi (BT), Bağımsız Denetimin Kalitesi, Denetim Süreci.

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ABBREVIATIONS

IAS	International Audit Standard
IIA	Institute of Internal Auditor
AICPA	The American Institute of Certified Public Accountants
CATT	Continuous Auditing Tools and Techniques
GAAP	Generally Accepted Accounting Principles
AAA	American Accounting Association
GAIN	Global Auditing Information Network
IAASB	International Auditing and Assurance Standard Board
IFAC	International Federation of Accountants
ISQCI	International Standards on Quality Control
IT	Information Technology
CAAT	Computerized Assisted Auditing Techniques
ICT	Information and Communication Technology
FRC	Financial Reporting Council
COSO	Committee of Sponsoring Organizations of The Treadway Commission
SPSS	Statistical Package for Social Science

INTRODUCTION

The world is undergoing continuous renewal and an accelerated electronic technological revolution today. Electronic and information technologies are crucial resources, essential alongside human and material resources. A competitive advantage for businesses that fully leverage technology workers to achieve their objectives, mission, and vision lies in their commitment to information technology and their adeptness in staying abreast of technological advancements. One of the modern challenges stemming from auditors managing the significance of utilizing information technology is its application in the auditing industry. Furthermore, it assists the auditor in selecting the audit sample, thereby enhancing the trustworthiness of the audit in relation to the inspection outcomes. But unfortunately, in Iraq, because of the lack of coordination and rehabilitation of the auditing cadres and programs employed there, the audit profession has not developed to the same degree as it has in other nations. Many nations today utilize sophisticated auditing software to boost audit effectiveness with contemporary technology. Since computers and software have the potential to arrange, store, process, and save files, using technology is one of the most crucial criteria utilized in a variety of fields to boost the ability and quality of work.

As the process of addressing data electronically has become necessary in both large and small institutions seeking to improve the effectiveness of their activities, the importance of auditing these institutions has emerged due to the emergence of a new control environment that differs from the traditional control environment. Furthermore, computers have been utilized to perform essential services in this sector, but the challenges faced by auditors in traditional methods, particularly in large institutions, are so vast that the audit process is complex, time-consuming, and expensive (Elefterie & Badea, 2016, p. 304). The development of computers has modified the standards to allow auditors to undertake accurate and thorough control over the organization's finances, hence facilitating their work (Marei & Iskandar, 2019, p. 1199).

Although the digital processing landscape does not change the core of auditing, it does influence how accounting information is stored, processed, and managed. The resulting requirement is to modify manual audit methods to comply with the current processing

environment, which differs dramatically from conventional systems. Furthermore, the auditor undergoes training in electronic data processing conditions to gain an understanding of the computer's hardware, ready-made programs, and electronic processing systems. This understanding assists the auditor in planning the audit process and comprehending the implications of using a computer to evaluate internal control measures, apply audit procedures, and utilize technical auxiliary audit methods. According to (Stoelet et al., 2012), an auditor conducting processes based on the applied audit technique must possess sufficient knowledge of how accounting data is processed.

It is required for all parties involved in the audit process to prioritize the quality of the independent audit. The auditor is interested in conducting a high-quality audit procedure to provide credibility to their report, while management is concerned that the audit process be carried out with high quality to instill confidence in the financial statements prepared with its knowledge. Those who benefit want the audit process to be conducted with high quality to ensure the reliability and equity of the financial information contained in the audited lists on which they will base their decisions. Professional organizations also seek to improve the quality of independent auditing to preserve the interests of all different parties by issuing standards regulating the profession and ensuring their application (Yeghaneh et al., 2015, p. 196).

Furthermore, Procedures to assure the quality of audit task are vital for providing the concerned parties and the auditor with a reasonable belief that the audit work has been completed with a high degree of economy, speed, and efficiency. This contributes to broader societal goals and enhances trust, credibility, and reliance on the auditor's work (Stoel et al., 2012, p. 62).

In addition, the current study is divided into three sections. After introducing the independent audit, the concept and objective auditing, the audit quality, important factors effecting quality of independent audit, audit process, stages of audit process, quality in audit process, this part also discussed effecting the achievement of quality in audit process, and the objective and important of using auditing in IT were discussed in section one. The second section addressed the concept and importance of information technology, this part also

discussed the notion of using IT in audit process in Iraq, external audit in IT environment, Section three discussed the approach and statistical tests used to empirically analyses the influence of using Information technology on audit process, using data gathered from survey respondents within northern Iraq audit firms.



SECTION 1. INDEPENDENT AUDIT

This section provides the theory related to independent audits. It explains the theories in detail that guide the usage of IT in audit firms and the types as well. In addition, it emphasizes the difficulties associated with the influence of IT on the quality audit process; moreover, this section aims to address the important factors affecting quality of independent audit together with the audit quality and objective. In this direction, the audit process and stage of the audit process, which is planning, control test and basic test, analytical procedures, documenting performance and completing the audit process, and issuing the report of auditor will be mentioned, then the objective and importance of auditing considering the use of IT will be mentioned, afterward, the auditing under the use of information technology will be explained.

1.1 CONCEPT AND OBJECTIVE AUDITING

The definition of audit encompasses numerous issues due to the various bodies and parties issuing them. Despite the formal differences between these notions, they ultimately serve the same purpose. The most important definitions are mentioned as follows: The concept of auditing dates back to 3000 BC and can be defined as an examination of a person's activity by another person. Based on archeological digs, history demonstrates that Mesopotamian rulers gave clerks the authority to tally the stock of the royal grain silos to oversee officers (Saruhan, 2017, p. 2). Several sources claim that auditing dates back to 3500 BC. It was long seen as serving the purpose of confirming accounting figures (Swinkels, 2012, p. 27). A person, firm, system, process, project, product, or something related can be compared to a set standard or have their compliance with the standards evaluated as part of an audit (Gaddis, 2018, p. 16).

Furthermore, the concept of auditing has gone through evolutionary stages and accompanied the development of the services that this function performs as an important tool that helps senior management in organizations carry out their duties to the fullest. At the end of the seventies, the goal of this job was not to serve the administration only, but rather to serve the entire organization. The American Accounting Association defines an audit as an organized and systematic process for collecting and objectively evaluating evidence and

clues related to the results of economic activities and events, determining the extent of conformity between these results and the established standards, and informing the parties involved of the audit's findings (Dennis, 2015, p. 12)

The primary goal of an audit is to report on the financial statements based on the auditor's findings and to obtain reasonable confidence that the financial statements are free of significant misrepresentation. The auditor will accomplish these goals by respecting pertinent ethical standards, with professional skepticism, planning and executing an audit, demonstrating expert judgment, acquiring adequate and pertinent data upon which the auditor's conclusion is based, and conducting the audit in accordance with industry-accepted auditing standards (Johnstone-Zehmset et al., 2015, p. 7). An audit is a methodical procedure for gathering and assessing information objectively concerning claims made about economic activities and occurrences in order to determine the extent to which these assertions match pre-established criteria and subsequently communicate the discovery to interested users (Rick et al., 2005, p. 11). Moreover, according to the definition in ISA 200, the objective of auditing financial statements is to enable the auditor to form a judgment on whether the financial statements were prepared, in all material respects, in accordance with a recognized financial reporting framework (Exhibit, 2009, p. 75).

1.2 THE AUDIT QUALITY

Audit quality refers to the level of reliability and accuracy in an audit process conducted by auditors. It involves the thoroughness, effectiveness, and professionalism with which auditors examine an organization's financial information, internal controls, and operations. High audit quality ensures that financial statements are free from material misstatements and errors, enhancing the confidence of stakeholders, investors, and regulators in the accuracy of the reported financial information. The International Federation of Accountants (IFAC) defines auditing as a self-contained investigation of a corporation. During which the auditor provides objective information regarding the use of funds by the underlying organization. Auditing will be successful if the auditor maintains honesty and openness while disclosing audit results (Masood & Afzal, 2016, p. 26). The auditor's honesty directly affects the quality of the audit. Competency, contentment, and honesty establish the level of audit quality (DeAngelo, 1981, p. 184).

Following corruption scandals in both the public and commercial sectors, auditing became a more important method of entity governance. Government and business sector governance can both be strengthened by auditors with robust professional and personal backgrounds. The quality of the audit is directly impacted by several factors existing in the company's workplace. In addition, (Palmrose, 1988, p. 57) Level of assurance is a definition of audit quality. Since the goal of an audit is to ensure financial statements, audit quality refers to the likelihood that financial statements are free of significant errors. Furthermore, empirical research has shown that time constraints such as time budgets and deadlines harm the quality of audits. It has been discovered that time budget constraints lead to trade-offs between audit effectiveness and audit efficiency (McDaniel, 1990, p. 287).

Moreover, to make it more likely that "lower audit quality acts" like underreporting time and premature signing off on audit work documents (among others) will be committed (Reckers et al., 1997, p. 74). Stated that the organizational environment is a multifaceted notion that is challenging to operationalize in many work environments. Building professionalism and the mental freedom necessary to execute audits efficiently both depend heavily on the workplace environment. Employee performance is positively impacted to produce desired results by the top management's attitude, the organizational culture, and financial benefits (Saeed, et al., 2013, p. 1477). The quality of the audit was significantly impacted by independence, expertise, and level of accountability, according to research of 28 accounting firms in Indonesia (Suyono, 2012, p. 44).

Significant aspects of the workplace include the level of promotion, compensation, job stability, fairness, and relationships with coworkers and managers. (Muda et al., 2014, p. 74), Created a model where the extent of communication between employees was a significant predictor of perceived production, and variables such as job stress, motivation, and communication were independent. objectively proven that improving employee engagement and satisfaction was greatly influenced by the work environment. Another study found that effective leadership skills and embracing change in the workplace had a beneficial impact on employee performance (Imran et al., 2012, p. 1457).

Al-Khaddash et al (2013, p. 208) State the auditor's pay, independence, competence, and qualifications. Furthermore, the auditor's reputation was shown to be a crucial factor in determining audit quality in Jordan. (Baharud-din et al., 2014, p. 129) highlighted the significance of auditor independence, objectivity, and management assistance in improving audit quality. Additionally, employees' success is influenced by their attitudes, family history, beliefs, health, family support, and personal concentration. (Sultana et al., 2012, p. 688), according to statistical evidence, employee performance in Pakistan was more significantly impacted by compensation, autonomy, and advancement opportunities than by physical working conditions. Every employee, whether in the public or private sector, has primary concerns about working conditions, salary, promotions, job security, pieces of training, and employee empowerment. Ent in practically every organizational environment.

This definition bases its assessment of audit quality on the audit's findings, specifically the dependability of audited financial statements, and it also acknowledges that audit quality is one of the most crucial concerns in contemporary audit practice (Oginga, 2013, p. 45). Auditors can increase audit efficiency and effectiveness by utilizing the most common Computer Assisted Audit Tools and Techniques (CAATTs), which improves quality in response to the growing demand for auditors to enhance audit effectiveness and efficiency (Braun & Davis, 2003, p. 727). The Financial Reporting Council (FRC) provides an audit quality framework, five main factors influence audit quality:

- 1) Culture of the audit firm.
- 2) Abilities and qualities of the engagement team and the audit partner.
- 3) Efficacy and efficiency of the auditing process
- 4) Reliability and Usefulness of Audit Reporting including auditor communication regarding key issues.
- 5) Factors outside the Control of Auditors. (Johnstone-Zehms et al., 2015, p.14).

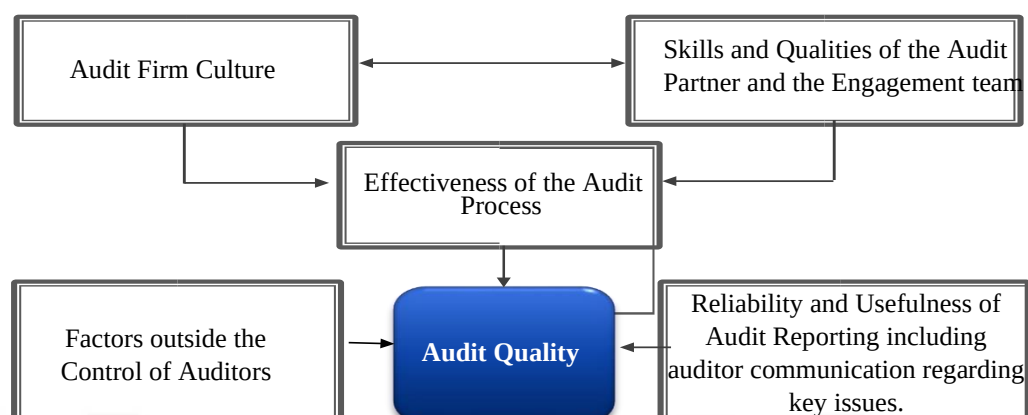


Figure 1.1: Factors influence audit quality.
(Source: Johnstone-Zehms et al., 2015. p.15)

The audit quality framework was created by the Financial Reporting Council (FRC) to offer recommendations on audit quality drivers. Through sound corporate governance and transparent financial reporting, the FRC, an independent regulator in the United Kingdom, works to encourage investment in securities.

Table 1.1: The Factors Influencing Audit Quality.

Factors Influencing Audit Quality.	Indicator	Type of Activates, Process, And Attribute
Audit Firm Culture	The FRC claims that when the firm's leadership engages in the following kinds of activities, the audit firm culture improves audit quality:	- Fostering a culture at work that values and rewards audit quality. - Perceiving that doing the right thing' serves the public interest and that," enhances and preserves one's reputation as well as the reputation of their audit business. - Ensuring that workers of audit firms have sufficient time and resources to deal with any challenging situations that may occur. - ensuring that financial factors don't harm audit quality. And highlighting the advantages of audit partners seeking advice on challenging topics and respecting their expert opinion.
Abilities and qualities of the engagement team and the audit partner.	The FRC observes that when audit firm staff members engage in the	Following audits and ethical standards while being aware of the client's business.

	following kinds of activities, the audit quality benefits.	- Adopting professional skepticism and fixing problems discovered during the audit. understanding audit, accounting, and industry-specific challenges by attending and learning during training. - Mentorship and opportunities for 'on-the-job' training Ensuring that employees undertaking auditors have the necessary levels of experience and are adequately overseen by their superiors in their audit work.
Effectiveness of the Audit Process	The FRC acknowledges that when the subsequent actions and procedures are taken, the audit process itself positively impacts audit quality:	- The audit process is organized well and includes: - stimulates managers and partners to properly plan the audit. - Outlines a structure and methods for quickly and effectively obtaining the necessary audit evidence. - Adequate audit documentation is necessary. - enables adherence to auditing standards while preserving professional judgment. - Making sure audit work is properly reviewed.
Reliability and Usefulness of Audit Reporting including auditor communication regarding key issues.	The following characteristics, according to the FRC, are included in audit reports that enhance audit quality.	- The writing of audit reports conveys the auditor's assessment of the financial statements clearly and unmistakably and takes into account the requirements of those who will read the reports. - The financial statements' accuracy and fairness are properly concluded by auditors, as seen, for instance, in the U.S., where it is determined that GAAP has been followed in the presentation of the financial accounts. Discussions between the audit committee and the auditor include: - The duties the auditor was hired to accomplish or the scope of the audit.

		- The audit conclusion was reached after identifying significant risks and making judgments. - Exemplary features of the client's accounting and reporting as well as suggestions for enhancing financial reporting.
Factors Outside the Control of Auditors That Affect Audit Quality.		The FRC is pragmatic, recognizing that certain factors influencing audit quality, such as client corporate governance and the regulatory environment, are independent of the external auditor. The FRC recognizes that successful company governance requires audit committees that are capable of handling problems and a client that places more importance on doing things well than on finishing them by a specific deadline. Furthermore, it is crucial to have a legislative framework that prioritizes audit quality over all other factors.

(Sources: Franzel, (2004) and Johnstone-Zehms et al., (2015, p.15)

1.3 IMPORTANT FACTORS AFFECTING QUALITY OF INDEPENDENT AUDITS

From a conceptual approach, inputs, outputs, and underlying variables are the three core components of audit quality. Regarding audit quality other than standard, there is a lot of feedback. For instance, one of the most crucial personal traits of an auditor is their expertise, experience, ethical standards, and way of thinking. The auditing procedure is another crucial component. The term "audit process" refers to factors like effectively following audit procedures, using effective audit tools, and having easy access to support resources. These cases are all connected to audit quality. In addition, because most stakeholders consider the audit report when evaluating the audit quality outcomes, the audit outcomes also have a substantial impact on audit quality (Yeghaneh et al., 2015, p. 198).

Despite the depth of the research, no single commonly recognized definition or acceptable metric for audit quality has been established. In DeAngelo, (1981, p.185)

Research, DeAngelo's definition serves as the foundation for much of the audit quality literature as mentioned before. This definition applies to external financial statement audits. Still, it can also be expanded to cover other types of auditors and audits (such as internal auditors) (for example gratia., compliance, and operational audits). It is acceptable to presume that this phrase encompasses adherence to pertinent audit processes and standards, notwithstanding the lack of a complete definition of audit quality that encompasses all types of audits and auditors. When one or more principals, such as an owner, choose another person to serve as their agent or steward in carrying out a service on their behalf, an agency relationship, including audit quality, occurs. When this service is provided, the agent is given some decision-making authority. An effective and productive economy is aided by the principal's delegation of responsibilities and the resultant division of labor (Al-Khaddash et al., 2013, p. 207). It has been established that the independence of the auditor and the quality of the auditing both reflect the level of confidence in the financial reports and are important considerations when hiring an auditor.

Al-Khaddash et al (2013, p. 210) the awareness of accounting and auditing rules, as well as the auditor's expertise, and his or her honesty are the most crucial aspects that influence the quality of the audit. In addition, their study of publicly traded Jordanian companies discovered that three categories of factors firm-specific factors like management replacement, auditing office-specific factors like auditing quality, and factors related to global auditing standards and auditing ethics have an impact on auditor rotation. Also, (Abbott et al, 2001) examined auditor modifications and discovered that when auditors change, audit quality improves when active, independent audit committees are present. As discovered, there is no correlation in regulated businesses between analysts' assessments of disclosure quality and industry-specialized audit firms, but a favorable link in unregulated industries. (Abbott et al., 2001, p. 4) suggested that independent and active audit committees require a higher standard of audit quality due to worries about financial misstatements resulting in monetary or reputational losses.

Brown et al (2006, p. 4) discovered that using computer-assisted audit approaches rather than conventional data mining increases the success of auditing tasks. Also, the

independence of the auditors does not, by itself, materially impair the accuracy of financial reporting. (Khasharmeh, 2002) determined that the auditor needed to be chosen objectively and not solely on their relationships with the board of directors. A positive correlation between audit quality and various variables, such as external and internal control, has been found in earlier studies. In addition, (Al-Khaddash et al., 2013, p. 219) in the study found that,

- 1) Auditors enhance efficiency without compromising quality by having a relevant degree, work experience, and strong knowledge of accounting and auditing standards. Training in fraud detection and staying updated on technical advancements are crucial.
- 2) Auditing firms should boost their reputation by hiring sincere, objective auditors with independence. Active control departments, tracking all aspects of the business, contribute to accurate opinions. Business growth is influenced by a firm's reputation.
- 3) To motivate auditors, firms should offer competitive fees, rewards, bonuses, and opportunities like auditing branches of banks abroad. This ensures job satisfaction and retention, contributing to overall stability.
- 4) Auditors maintain specialization through seminars and training, interacting with auditing experts to enhance proficiency. Familiarity with banking policies and instructions is essential.
- 5) Reiteration: Auditors should maintain high specialization through seminars and training, interacting with auditing experts. Proficiency is enhanced by familiarity with banking policies, rules, restrictions, and usage instructions.

1.4 AUDIT PROCESS

Auditing processes from beginning to end become necessary as clients' technical sophistication increases, and the purpose of independent auditing of the financial statements of enterprises is to ensure the accessibility of accurate, safe, and reliable opinions of users. The financial statements of these reports are audited by an independent field expert guardian, and an audit report containing reasonable assurance is prepared. The audit process begins with the client business contacting the audit firm. In this process, a proposal is made by the client company, before the acceptance of this proposal, in a timely manner, the auditor or the

audit firm collects information about the client company, and interviews are held with the previous auditor. The audit firm evaluates whether it can apply audit procedures to the firm by making a risk assessment regarding the client's business (Bierstaker et al., 2001, p. 160).

Auditing has been defined as a comprehensive examination of records, accounts, or procedures carried out by a qualified person who is specially trained in this business. In terms of the auditing profession, all audits involve a series of steps that an individual or group of individuals performs in order to provide an unbiased technical opinion on a matter. These steps ensure that the individual or individuals engaged in the auditing profession fulfill the requirements of the accepted auditing rules related to the auditor's person (general rules to audit), that the audit procedures are carried out in accordance with the known auditing rules (audit rules related to fieldwork), and that the auditor's opinion (the auditor's report) is prepared with consideration for the information stated in the auditing rules acknowledged during the preparation of the auditor's report (Isa et al., 2020, p. 190).

Auditing has also been defined from the practical point of view as an organized method to objectively obtain evidence and evidence regarding what is recorded in the books and records about the economic events of the project and evaluate them to ensure the degree of similarity between what is proven and these events according to certain standards and transferring the results to the parties concerned with the economic unit. It is known that the financial statements that summarize these events represent the financial position of the project and the results of its work, prepared by the project management. Although the auditor may participate in preparing them and writing appendices to them, his job does not go beyond examining those lists and expressing his technical opinion about their fairness, (Yu et al., 2000, p. 197), the auditing process has evolved as a result of several factors, which can be limited to the following (Bierstaker et al., 2001, p. 163):

1. Management's increasing need for accurate periodic reports.
2. Management's desire to provide correct data to external parties.
3. The emergence of subsidiaries and the increasing scope of international operations.
4. Modern and advanced technology developments.
5. Transforming the professions of the external auditor into a test review.
6. Increase in corporate failure and bankruptcy.

7. The emergence of large financial companies, and accordingly all these factors have helped in the development of the auditing process, as it currently represents the safety valve in companies that reflects the financial position of the company or institution operating in it.

It is worth noting that the beginning of interest in developing the work of internal auditors was in America in 1941 when they established the Institute of Internal Auditors, from which a bulletin was issued that included the responsibilities and duties of the internal auditor, as the internal audit process was defined as an activity that takes place within the company intending to review operations Computational and financial as a basis for providing preventive services to the administration (Bierstaker et al., 2001, p. 162).

The profession of internal auditor has become very complicated because the financial and accounting operations have also been complicated in a way that keeps pace with the economic developments taking place in society. It is a vital function related to the surrounding society. As a result of these developments, the position of internal auditor has emerged as one of the most critical roles in a business or service organization. It serves as a safety valve or an alarm that warns if danger exists, or manipulating the economic resources owned by the company or service organization.

1.5 STAGES OF THE AUDIT PROCESS

The audit process consists of well-planned phases based on the practical expertise of auditors who meet the necessary academic credentials. It is a methodical approach to gathering and assessing evidence. After the audit process is complete, the auditor will be able to make an educated judgment about how accurately and fairly the financial statements depict the organization's reality (Bierstaker et al., 2001; Arens et al., 2012; Mehic, 2014, p. 8). The audit process is divided into the following stages:

- ❖ Planning stage.
- ❖ Stage of implementation of control tests and basic tests.
- ❖ Analytical procedures.
- ❖ Documentation performance.
- ❖ Stage of completing the audit process and issuing the auditor's report.

The planning phase is considered a fundamental aspect of the auditing process and is a prerequisite for meeting international auditing standards. Furthermore, before initiating the audit assignment, it enables the auditor to evaluate the expenses and advantages of the audit process. As for the stage of implementing control tests and basic tests, at this stage, evidence supporting the various types of controls that contribute to the auditor's assessment of control risk is collected., while the stage of conducting analytical procedures The outcome depends on the nature of the results from the first and second stages. At this point, based on the gathered evidence and risk assessment, the auditor also, at that stage, implements analytical procedures to verify the rationality of financial operations and balances and after that the documentation performance. Then as for Completing the process of auditing and publishing the auditor's report, the auditor ensures organizational consistency throughout all stages of the audit, following the planned audit program. Additionally, the auditor maintains a permanent file where information obtained is recorded (Arens et al., 2012; Bierstaker et al., 2001).

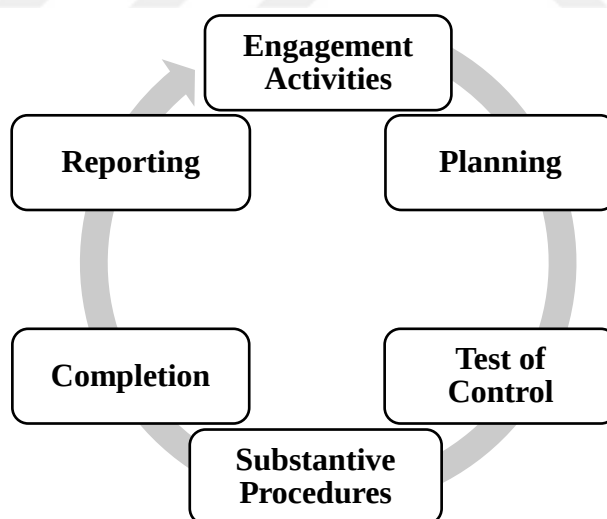


Figure.1.2: Stages of audit process.

(Sources: Mehic, 2014, p. 8).

1.5.1 Planning Stage of The Audit Process

According to audit literature, the fundamental element of the audit strategy is expressed in the audit risk assessment. This idea suggests that an approach is required for the audit to guide the anticipated inspection in different scenarios. Planning the audit process involves formulating and defining a comprehensive strategy for the conduct and scope of the anticipated examination. The scale of projects does not align with the approach of conducting a detailed inspection of the balances, books, and documents of diverse accounts representing the accounting community. Including the concept of planning in the term 'strategy' implies the auditor's idea and experience in selecting sample items to mitigate auditing risk (Begma, et al., 2019, p. 3).

The audit planning process involves developing a general strategy according to which the audit objectives, nature, scope, and timing of audit procedures, and the necessary material and human resources are determined. Previous experience or from the available sources of knowledge. The committee also emphasized the concept of relative importance and the impact of omission in the financial statements on the economic decision, in addition to knowing the importance of the concept of audit risk and its use during the planning process.

Begma, et al (2019, p. 4), define the term audit in general as: “the process of collecting, organizing and analyzing information to reach the desired goals”, while the term planning for the audit process is defined as stated in International Auditing Standard No. (300) that planning for the audit includes setting a comprehensive audit strategy for the process and the development of an audit plan. What is meant by planning in this standard is to develop a general strategy and Thorough treatments, which are in line with the type of job that must be done and the deadline for doing it, as well as the requirements of agreement with the client regarding it.

1.5.1.1 The Importance of Planning Stage

The importance of planning the audit process stems from the reliance of many different entities on the reports issued by the auditor, as it provides various services to many technicians such as the management of the facility, owners, government agencies, investors, and others. Also, the planning process is an auxiliary tool for the auditor to obtain evidence and clues to express his opinion on the financial statements and know whether these financial

statements are free from errors of relative importance so that the planning team manager can take care of the planning process before his team begins the audit process (Rick et al, 2005, p. 293).

The importance of planning the audit process is also highlighted as indicated by Audit Standard No. (300) as follows: The International Federation of Accountants (Simnett, 2007, p. 31).

- 1) Assist the auditor in paying sufficient attention to the important aspects of the audit process.
- 2) Assist the auditor in identifying potential problems and resolving them promptly.
- 3) Assist the auditor in organizing and managing the audit process appropriately so that it is conducted effectively.
- 4) Assisting in the selection of members of the operation team Possessing the necessary aptitude and skill to assess anticipated dangers and choose the right employment for them.
- 5) Facilitate, direct, advise the operation team, and review their work.

Farnham (2021), in the audit guide, believes that the audit planning memorandum represents how the audit strategy, and the preliminary scope of the audit tests are determined, and when prepared it deals with administrative matters related to the implementation of the audit process, such as the timing of audit visits, dates for submitting accounts and reports, etc. There is no doubt that the importance of planning appears in achieving the following objectives:

1. Better organization and control of audit work.
2. Reducing audit time.
3. Minimize potential surprises.
4. Make the audit based on achievement and not on fees.

1.5.2 Stage of Implementation of Control Tests and Basic Tests

At this point, control tests and basic operations tests are carried out to gather evidence for the types of controls that support the auditor's evaluation of control risk and to validate the cash balances to predict potential distortions in the financial statements. The auditor

initiates this step three months before the end of the year to allow for thorough testing selection because they are aware that many auditors conduct basic operational tests and control tests on the same financial operations simultaneously. Basic tests can be intensified at this stage or in the third stage if the types of control are deemed ineffective or if distortions in the types of control cannot be detected (Arens et al., 2012).

1.5.2.1 Implementation of Control Tests

Internal control is an important component of corporate governance, and it can even be said that it is the most important element in it. Its importance has doubled in recent years after several large companies suffered a collapse as a result of widespread corruption and weak oversight. Furthermore, internal control provides the necessary tool to provide the audit committee with the basic information required to set procedures aimed at protecting the company's affairs and assets providing protection for the company from work risks in addition to other tools that contribute to increasing efficiency in achieving the company's goals. This comes through the application of an effective and accurate system that provides the ability to exercise control over the financial reports of these companies (Westgard, 2003, p. 603).

The increase in the number of projects, their large size, the multiplicity of their operations, the requirements of the laws of multiple countries, and the difficulty of the external auditor carrying out the detailed audit due to the increase in the cost, which led to the existence of internal control departments. Many people believe that internal control was developed to prevent fraud by employees, while this purpose is part of the purposes of internal control.

Table.1.2: The types of internal control

Administrative Control (Miyazawa, 2019, p. 47)	Administrative control, which includes the organization plan, means, and procedures mainly concerned with achieving the greatest possible production efficiency and ensuring the achievement of administrative policies. Stages, management reports, quality control, and other forms of control.
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Accounting Control (Paterson et al., 2019, p. 2)	Accounting control includes the organization plan, means, and procedures that are mainly concerned with preserving the assets of the establishment and the extent of reliance on the accounting data recorded in the books and accounting records.
Internal Tuning (Bubilek, 2017, p. 20)	Regarding the internal control system, internal oversight, the auditor's responsible for examining and changing the internal control systems. - Using various means of control. - Determine the terms of reference, authorities, and responsibilities. - Division of labor. - Self-monitoring so that the work of each employee is subject to review by another employee. - Insurance of property and employees who are in the possession of the trust.

The American Institute of Certified Public Accountants (AICPA), according to (Çela, 2018, p. 273) defined internal control as the organizational plan, means of coordination, and measures used in the bank or project to protect its assets. Internal control also includes control and review of accounting data to ensure their accuracy and reliability, boost production efficiency, motivate employees to do so, and obey the administrative rules that apply. Internal control is a set of rules and practices created to provide the Bank's management with enough confidence that its goals have been met. The bank's overall internal control is frequently used to describe these rules and processes. In addition, the American Auditing Standards Board (AASB), (Ghanim & Al Fatlawi, 2018, p. 3049), defined the internal control system as the policies and procedures established to provide a reasonable degree of assurance (the costs of internal control systems do not exceed the expected benefits of those systems) on the achievement of certain objectives of the facility. Through the previous definition, the types of internal control can be identified:

1.5.2.2 The Basic Components of the Internal Control Structure According to the COSO model

The Committee of Sponsoring Organizations of the Tread Way Commission-COSO (COSO, 2013, p. 114) identify five essential components of internal control, which are

represented in Figure 1.3 below: the control environment, risk assessment, control activities, information and communication systems, and monitoring activities.

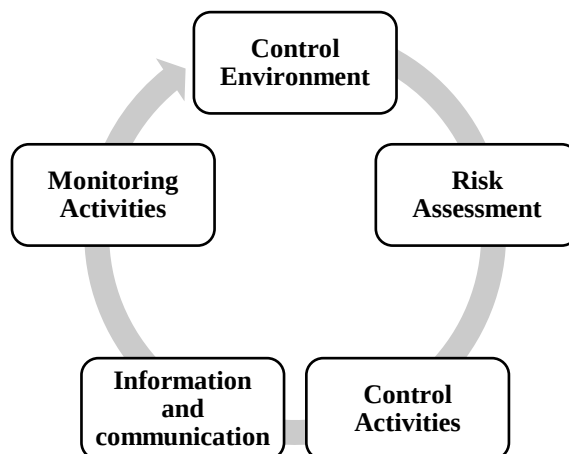


Figure.1.3: Components of the Internal Control

(Sources: COSO model 2013, p.114)

1. Control Environment

The control environment is a crucial component of the control structure, acting as the foundation for all other components, as per the COSO model. According to (Ali, 2013, p. 13), the control environment also comprises practices, guidelines, and rules reflecting the overall perspective of managers and senior management on control and its significance to the unit.

2. Risk Assessment

All economic entities encounter various hazards, whether internal or external, irrespective of their size or type of operation. To minimize errors and irregularities, management evaluates risks as an integral part of the design and operation of the internal control system (Moeller, 2007, p. 41).

3. Control Activities

It is called the control procedures, and the control activities represent the policies and procedures that the management determines to achieve the objectives of the economic unit. As well as those policies and procedures of the other components that help in making sure

that the necessary actions are taken to identify the risks that hinder the achievement of the objectives of the unit (COSO, 2013, p. 4).

4. Information and Communication

Defining accounting information systems and communication means that it is a set of methods used to identify, compile, classify, and analyze the financial operations of the unit. Besides, collect them, write them down, analyze them, and determine the responsibility for the assets associated with them. For management to be effective, all information must be appropriate, specific, provided promptly, accurately, and prepared in a way that makes it usable. The comparison as well as the possibility of accessing this information can be financial or nonfinancial and related to operations, whether internal or external or linked to a specific circumstance. Sponsoring Organizations of the Treadway Commission (COSO, 2013, p. 2).

5. Monitoring Activities

Monitoring activities are related to continuous assessment or the periodic Monitoring activities involve the continuous or management's recurring evaluation of the effectiveness of internal control. This assessment aims to ascertain the extent to which controls are implemented in accordance with their design, assess the potential impact of changes in surrounding conditions, and ensure the internal control system effectively achieves the addressed goals. Previously, it was necessary to define a set of basic components to achieve this effect, as the following figure shows the integrated framework for internal control Based on the COSO model, as per the Treadway Commission's Sponsoring Organizations (COSO, 2013, p. 2).

1.5.2.3 Basic Tests of Operations

The auditor performs some basic tests regardless of the results he or she obtains from control tests. The difference between them and control tests is that they are testing for errors or irregularities that directly affect the balances of the financial statements. Plus, there are some basic tests that he or she performs based on what has been reached. mechanism of control tests (Blokdijs, 2004, p. 192).

Table.1.3: The basic test of operation

Existence	It is verified that there are no registered transactions that are not supported by documents, which may indicate that they are fictitious transactions, and it is also verified whether there are transactions registered more than once.
Completion	The aim of the audit in this case is to verify that all transactions that have taken place have been fully recorded and that none of them have been deleted, as the auditor starts checking the documents supporting the operations and not from the books.
Precision	Verifying that the transactions are recorded accurately, and, in this case, the auditor verifies that the recorded transactions include the correct values, and this requires checking the documents in terms of the registered quantities and the specific prices that are consistent with the prices that have been agreed upon and verifying the calculations and correct recording of actual quantities.
Classification	The auditor must verify the classification of operations, whether these operations are cash or deferred, and whether these items or services exist, as well as the separation between revenue operations and capital operations. As the appropriate classification process helps in obtaining the relevant financial ratios and indicators more accurately. It would be better if these types of operations were separated, thus enabling the users of the financial statements to make appropriate decisions for the company.
Timing	The accuracy of the transactions' timing of recording must be confirmed by the auditor. And in this case, it is important for the auditor to pay attention to the cut-off period, which is the period before and after the end of the year about two weeks, where the auditor examines a sample of documents and compares their dates with the dates of recording in the accounting books, as this process enables the auditor to verify that these operations are not inflated or reduced.

1.5.3 Analytical Procedures

As the auditor analyzes each primary operation and account individually, it clearly articulates the primary objective of a specific phase in the auditing process, which is to collect sufficient supporting evidence to evaluate the accuracy of closing balances and accompanying notes in the financial statements. Subsequently, balance tests are conducted to ascertain the extent of inaccuracies or monetary anomalies in the financial statements' balances (Arens et al., 2012, p. 223).

1.5.3.1 Analytical Audit Procedures

When conducting an audit, one of the most crucial methods the auditor uses to identify the company's indicators, which reveal both its strengths and weaknesses, is analytical procedures. Analytical procedures are generally based on comparing the current financial and non-financial ratios and values with the financial and non-financial results and values for the previous periods. Then predicting the relationships and causes of those results according to the auditor's experience and personal judgment. These procedures provide the auditor with new evidence about the soundness of the recorded financial results and values. When searching for significant changes in those results, the auditor must collect sufficient evidence to enable him to form and strengthen his opinion, which he shows in his report (Appelbaum et al., 2018, p. 84). The process of evaluating financial data and exploring the relationships between financial and non-financial statements is termed analytical procedures. Another analytical approach involves scrutinizing identified variances and connections that significantly deviate from the expected amounts or are inconsistent with other pertinent information (Hirst & Koonce, 1996, p. 462).

Table 1.4: The analytical procedures are represented in the use of statistical and mathematical tools such as financial ratio analysis, and trend analysis in addition to regression analysis and indicator analysis.

Financial Ratio Analysis (Barnes, 1987, p. 452)	Financial ratio analysis is widely regarded as one of the oldest and most essential financial analytical methods. Financial ratios examine the values of the items provided in financial statements and accounting reports to provide relevant signals and insights into the information included in these statements. Financial ratios may be characterized as an examination of the connection between two variables: one representing the numerator, while the other represents the denominator, i.e., the study of the relationship between one or more elements and another or many other elements.
Trend analysis (Moolman, 2017, p. 175)	Trend analysis as a common analytical approach in financial analysis. It provides a concise explanation of what trend analysis entails, which is examining changes in the balance of specific items or components over consecutive accounting periods. Additionally, it highlights the main focus of the study, which is often comparing balances from the prior year to the current year. Overall, the sentence serves as a clear and concise introduction to trend analysis in financial analysis.

Regression analysis (Sykes, 1993, p. 2)	The concept of regression analysis as a statistical technique is used to predict the average of one or more random variables by using values and measurements of other random variables. Additionally, it clarifies that regression analysis relies on causal relationships, where changes in the independent variable largely influence changes in the dependent variable. Overall, the sentence provides a concise explanation of regression analysis in a clear and understandable manner.
Indicator analysis (Barnes, 1987, p. 454)	Indicator analysis involves comparing relationships among accounts within financial statements, comparing financial data with non-financial information, or examining relationships between entities within the same industry. Another form of indicator analysis, sometimes referred to as general volume analysis, includes identifying account balances as percentages of total assets or total revenues. Revenue analysis is particularly suitable when the relationship between accounts is consistently predictable.

1.5.3.2 Advantages of Analytical Procedures

The use of analytical procedures is useful in achieving audit objectives through the following advantages (Kritzinger, 2015, p. 8).

- a) By analyzing the final financial statements, it is possible to identify many aspects that lead to the discovery of a defect in the data.
- b) The financial analysis provides the auditor with more information and data on the activity of the entity subject to audit in light of its actual activity, which provides him with the opportunity to compare these data and results with the drawn estimates.
- c) The ratios and indicators provided by the analytical procedures allow the study of the relationship between the financial element of the entity subject to audit and the auditor by evaluating the extent of the balance of the relative weight of the various sources of resources in financing aspects of use, and then the extent to which this is consistent with the purposes and objectives of that entity.
- d) Monitoring plans and programs and their level of efficiency in the light of implementation results and indicators and studying the causes of deviations that reveal shortcomings and weaknesses in planning, help correct planning paths, and remove obstacles.
- e) Evaluating the efficiency of executive management at any of its administrative levels.

1.5.3.3 The Importance of Applying Analytical Procedures.

The importance of the auditor's use of analytical procedures are that they help in the following aspects understanding the field of work of the entity being audited for previous years (Kritzinger, 2015, p. 65): For the auditor to identify strengths and weaknesses, he must understand the nature of the work of the entity being audited. Fundamental changes and weaknesses that are required.

Proving evidence and expanding its examination, thus the auditor can plan, determine the nature, timing, and extent of audit procedures. For example, if the auditor notices a significant increase in the balance of fixed assets, this indicates that the entity has made additions to its assets during the year under audit that requires examination.

a) The auditor assesses the entity's ability to continue by using analytical procedures, specifically those related to financial failure. For instance, a high ratio of long-term debts to equity and decreasing profit-to-assets ratio, identified through analytical tools, may indicate a risk of financial failure, impacting the entity's continuity.

b) Identifying potential errors in financial statements involves nothing significant, expected, and unexpected differences. Unusual fluctuations may suggest errors or irregularities. The auditor must investigate large differences, ensuring they result from economic reasons or changes in accounting policies, not errors or violations.

c) The nature of analytical procedures varies based on the data types compared. Selecting the appropriate analytical process is essential for effective application. There are five primary categories of analytical techniques, each serving distinct purposes in financial analysis (Matrood & Khilkhal, 2019, p. 4).

1. Comparing the data of the entity under audit with the data of the activity in which it operates.
2. Comparing the data of the entity under audit with the corresponding data in the previous period.
3. Comparing the audited entity's data with its expectations, such as estimated budgets or the auditor's expectations.
4. Studying the connection between the elements of financial data, which is expected to correspond to the predicted model based on the firm's experience.

5. Studying the relationship between relevant financial and non-financial data, such as the salary cost divided by workforce size.

1.5.4 Documentation Performance

According to documenting the audit process Standard No. (230) Just as the process of gathering evidence begins with the preparation of the audit process, documenting the planning process, and collecting evidence is one of the foundations of the success of the audit process. As the auditor documents everything related to the audit process in working papers, and documentation means recording everything related to the audit from procedures, evidence, results, and documentation are done in any form that can achieve this (paper, electronic, or any other means) and the documentation can be called 'working papers'. So, working papers are the records and files that the auditor keeps and documents all the information he has obtained since the beginning of contacting the client and during the audit process, such as the audit procedures and tests that he performed. It includes information that he obtains from the facility directly or from outside the facility, or that he prepares personally. Usually, the auditor excludes from documentation any papers, proposals, initial ideas, or preliminary copies of the financial statements and statements (Muydinov & Mamazhonov, 2021, p. 315).

1.5.4.1 Audit documentation

Audit firms are swiftly implementing paperless systems, mirroring audit clients' increased reliance on accounting data. The majority of large audit firms have converted to electronic working documents or are in the process of doing so, according to data obtained from four of the top five multinational accounting companies. Information can be shared among auditors at various locations using e-mail or remote access software, which is a significant benefit of electronic working papers that boost efficiency. If necessary, working papers from previous years can be seamlessly included in the working papers from the current year. Scanners can be employed to transform the data into an electronic format when audit clients keep their accounting records on paper. Audit documentation is maintained electronically at various places with multiple backup copies for security reasons. Past and

present work papers require substantially less room to store, which also saves money (Bierstaker et al., 2001, p. 162).

The following is the definition of auditing as given by the Standard Board of Auditing Board of Computer Information Systems: "documents of auditing done and evidence supporting auditing findings and auditors' conclusions about computer systems (Mohammadi et al., 2014, p. 2301).

1.5.5 Completion of the audit process and Report Issued by the Auditor

The phase of completing the audit process and preparing the auditor's report: After finishing the initial four stages, the auditor is required to provide additional supporting documentation for the financial statements, consolidate the findings, publish the auditor's report, and conduct additional relevant data collection (Messier, 2010, p. 325). This stage involves the following:

- a) Carrying out tests for potential (contingent) liabilities. Liabilities contingents refer to liabilities that are likely to create rights for the entity to others, meaning that they affect the general financial situation, but do not result in a financial process that changes the values of assets and liabilities. It is also known as obligations that are expected to become actual debts for the facility in the future, as they must be disclosed in the notes through the implementation of an additional test in addition to the focused tests in the first three stages, and these obligations can arise if the following matters are available (Arens et al., 2012). Existence Uncertainty about the value of payments or damage value the final result to determine the actual value.
- b) For obligations that are determined based on future events.
- c) The possibility that there will be future payments to a specific party as a result of an actual event whose results have not yet been clarified, or as a result of future damage to a specific asset sold to another party.

1.5.5.1 Check Subsequent Events

Subsequent events are defined as the events that appear between the end of the entity's financial period and the date of the auditor's report, in addition to the facts discovered after

the date of the auditor's report. Therefore, the International Auditing and Assurance Standards Council in International Auditing Standard (560) emphasized the need for the auditor to take into account the impact of subsequent events on the financial data, and therefore he must follow the necessary processes to acquire adequate and suitable audit evidence up until the audit date. The procedures include the following (Al Nawaiseh & Jaber, 2015, p. 79):

- 1) Oral or written inquiries from the facility's lawyer about lawsuits and claims.
- 2) Inquiring management about the subsequent events that occurred, which may affect the financial statements.
- 3) Studying the management procedures established to know the subsequent events.
- 4) Examine the facility's most recent interim financial statements, cash flow projections, budgets, and other pertinent management data.
- 5) Reading the minutes of meetings of each of the shareholders, the Board of Directors, and the audit and implementation committees for the period following the end of the year (Özdemir & Gökçen, 2016, pp. 45-46).

1.5.5.2 Collecting and Evaluating the Evidence in Its Final Form.

In addition to the evidence collected during the previous audit stages, the auditor in the final stage collects additional evidence related to the entire financial statement and evaluates the results that help auditor in expressing his opinion through the evidence reached and this depends on his professional judgment. This evidence was reached from the beginning until the last stage as a whole during the stage of completing the auditor through analytical procedures, the assumption of continuity, the representation letter, and the annual report to ensure its consistency with the financial statements. This stage includes the following (Yu et al., 2000, pp. 203-204):

- a) Preparing and issuing the report in its final form, as it depends on the evidence that has been collected and on the results of the auditor.
- b) Contact the audit committee and the management to inform them of the matters that the auditor deems necessary, as this communication takes place as soon as possible to

communicate the circumstances that must be reported on. The auditor usually submits suggestions to the management that help improve performance.

1.6 QUALITY IN THE AUDIT PROCESS

The concept of quality changed after the development of management science, the emergence of the industrial revolution, large companies, and the increase in competition as quality became required in various fields of professional work. However, a clear, comprehensive, and agreed-upon definition and concept of quality did not appear in the review due to examination it from multiple and different points of view. One of the first researchers who worked on defining the quality of independent auditing is (DeAngelo), who defined it as "the possibility of a requirement for the chartered accountant to identify mistakes and deficiencies in the client's accounting system and document those findings in the report issued " (Messier, 2010, p. 322).

As a result of their study of the function of the internal auditor in expressing the credibility and objectivity of the accounting and financial data submitted to him, what exactly is the financial status of the company or institution, and how are its economic resources exploited? Is it optimally exploited, or is there financial corruption within the company or service institution? It requires a lot of accuracy, deliberation, experience, and care by the internal auditor to reach the best and most reliable results, and as a result, the field of internal auditing succeeds in achieving its most important and lofty objectives. No. 220 emphasizes the requirement for the organization to conduct audits in accordance with quality control, ensuring that the internal audit department complies with audit standards and serves the relevant parties appropriately. Different quality control techniques are required based on the institution's size, type of work, and location, as per the norm. The standard outlines the components of quality assurance.

Table.1.5: The standard indicated that the elements of quality control include.

Professional Requirements	The employees of the Audit Department are required to exercise appropriate professional care and adhere to the standards of professional conduct, including independence, integrity, objectivity, and confidentiality.
Efficiency and merit	The audit team needs to be highly proficient in technology and professionally competent to carry out their duties, exercise the necessary caution, and maintain this high standard through ongoing education and training.
Supervision	To gain reasonable confidence that all work is being completed to a suitable standard of quality, there needs to be sufficient guidance, supervision, and ongoing evaluation of all levels of operations.
Inspection	There must be continuous monitoring of the efficiency and effectiveness of the internal audit system; the department informs its employees about these procedures and policies and makes sure that they are aware of and reasonably understand them.

Source: (Manita & Elommal, 2010, p. 90).

The quality of the audit service is intangible, and it is difficult to determine its material value, which requires the auditor to have a professional commitment and a legal duty to provide services at all levels and with a high degree of quality, control, and consistency with the required standards to narrow the expectations gap. The question might be the concept of audit quality or what is meant by the quality of the audit process. Several definitions of audit quality have been put forward, (Sutton & Lampe, 1991, p. 277) for example, define it as the efficient and effective performance of the audit process by generally accepted auditing standards. As well as, with disclosure of errors irregularities discovered, work to meet the desires and needs of users of the financial statements. Moreover, (Xiao et al., 2020, p. 112), define it as the auditor discovering errors and gaps in the client's accounting system and recording that in the report he portrays. , (Sutton & Lampe, 1991, p. 278), also define it as the auditor's ability to detect error, fraud, and manipulation during the implementation of the audit process. As for the US Office of Governmental Issues, it clarified the quality of oversight in Article (50.3) that each oversight institution should carry out an oversight or certification process under the governmental oversight standards.

Thus, there are a lot of things that must be taken into account when conducting the audit process to reach the degree of accuracy and quality required to provide the best services

to data users. It is necessary to know what are the factors that affect quality verification in the audit process, and this is what will be noticed in the next paragraph.

1.7 FACTORS AFFECTING THE ACHIEVEMENT OF QUALITY IN THE AUDIT PROCESS

There are many surveys and experimental studies that were conducted to search for the most important factors that affect the quality of the auditing process. As many opinions appeared here since the end of the seventies until the present time, as professional organizations and organizational academies of the accounting and auditing profession worked to ascertain which aspects are influencing the quality of the audit work to upgrade the auditing profession to the highest levels.

Brown et al, (2007, p. 40) the American Institute of Certified Public Accountants (AICPA 1999) (List of Auditing Standards No. (65) related to the quality factors of the internal audit process, which includes: eligibility (which is determined by the educational level), and professional certificates (and objective)) which are measured by the authority to which it is submitted the report, the entity responsible for appointing internal auditors (and the quality of performing tasks) that is measured through the accuracy and adequacy of audit programs, the scope of the audit, and the American Institute of Internal Auditors (IIA) indicated in its standards issued by the determinants of internal audit quality, inter alia.

In Standard No. 1100 indicates that the internal audit activity must be independent, and auditors must be objective, impartial, and impartial while performing their work. Standard 1110 indicates that the audit manager must attain a position in the organization's administrative hierarchy that makes it feasible for the internal audit department to carry out its duties as fully as possible. Standard 1210 has indicated that the auditor should be characterized by the knowledge, skill, and competence required to perform his duties. As for the research and studies, many of them have been conducted to devise the factors that affect the quality of the work (Fatah et al., 2021, p. 1034). As it is noticed in the paragraph of the previous studies, (Mahdavi & Daryaei, 2017, pp. 771-776) intended to classify the factors influencing the audit process as follows:

1. A group of organizational factors represented by (planning the audit process, defining the audit work procedures, determining the size of the audit work, then determining the time required to complete the audit process and the auditor's skill in determining the starting point of the audit work and how to finish the audit work).
2. A set of behavioral factors that must be contained by the auditor, represented by the auditor having a high degree of honesty and independence, being cooperative and united with the members of his audit team, having a high mental capacity and open mindedness, and being keen with the management to provide quality factors in the audit work.
3. A set of personal factors that must be available in the auditor, such as that he has the practical experience, and that he has educational attainment that qualifies him to practice the profession, such as having a bachelor's degree or at least a diploma in accounting, and that the auditor is keen to participate in training courses for the audit profession.
4. A set of scientific basics for the auditing profession, such as commitment to applying generally accepted principles, in particular the implementation of the objectivity principle and conformity to professional norms in auditing, how to prepare reports on the optimal use of available resources in professional activity, how to rely on the internal control framework and the auditor's ability to identify deception and fraud.

1.8 THE OBJECTIVES OF AUDIT USING INFORMATION TECHNOLOGY

The auditor employed electronic audit programs to assess the electronic systems. These programs may be general (meaning they can be used in any review process) or specific (meaning they are developed to be used in the specific review process). (Al-Qudah et al., 2013, p. 424). According to several auditing standards, using information technology in auditing increases audit effectiveness and efficiency. Any technology used to aid in the performance of an audit is considered computerized-assisted auditing, and this would include automated working papers and conventional word processing programs. Furthermore, auditing guidelines also encourage auditors to re-perform some activities, like the aging of accounts receivable, and examine the accuracy of electronic data using computerized assisted auditing (Mustapha & Lai, 2017, p. 54).

By speeding up the process of selecting test samples, information technology can assist auditors in reducing the duration of substantive tests. For substantive testing in auditing, both statistical and non-statistical sampling techniques are accepted (Higgins & Nandram, 2009, p. 174). According to special considerations in applying the ISAs, adopting computer-assisted audit techniques may boost the effectiveness and efficiency of audit procedures. PACUIT researchers and computer audit techniques give auditors the ability to efficiently direct the audit process with high efficiency and quality as well as lower expenses for content examinations. Additionally, they think that computer audit approaches increase audit productivity and efficiency, enabling auditors to get the required data for computer-based audits (Kermani et al., 2016, p. 1822).

Using information technology, auditing tries to fulfill the following goals that serve the purpose of the review: as follows (Al-Qudah et al., 2013, p. 425):

- 1) The auditor's function in the complexity and scope of the corporation's processes, as well as its operational correctness, may be available.
- 2) The role of the auditor within the organization and the range of their responsibilities.
- 3) The expertise of auditors on technical matters.
- 4) To prevent fraud and theft, internal auditing is conducted.
- 5) The connection between oversight delegation and internal audit.
- 6) Auditing effectiveness.

1.9 THE IMPORTANCE OF AUDITING IN LIGHT OF THE USE OF IT

Today, businesses produce more information than in the past. To use information effectively in line with the objectives of businesses effective control systems are needed to detect risks and deviations that may occur. Having an effective audit system is important for a company because auditing allows businesses to pursue and achieve various corporate objectives. Therefore, inspection technologies integrated with the technological developments of the age have become a priority need. The reasons for the need to use technology in auditing can be listed as follows (Örmecioğlu & Erbaş, 2018, p. 557):

1. Requesting and sharing better management of tasks, reducing client-related delays and time spent processing different system reports. Studying and documenting the completeness and accuracy of source data and reports.
2. Evaluation and Scope: Automatic preparation of financial analysis for risk assessment, eliminating manual calculation and analysis.
3. Validation and Inspection: Automation of key testing, including sample calculation, selection, and preparation of documentation. Working before the audit process and working more flexibly and remotely.
4. Inquiry and valuation: Automation of transactions tests high-risk journal entry transactions as well as documentation of the approach performed.
5. Focus and Assurance: Possibility to perform large, comprehensive sampling tests (such as income), possibility to test exceptions in 100% ratio analysis results.
6. Analysis: Automatic preparation of images for inclusion in documents for customers and value-added analysis.
7. Minimizing errors.
8. Standardization: Standardizing documents helps to communicate the details of the material clearly and concisely for compliance with audit rules.

SECTION 2. INFORMATION TECHNOLOGY IT

This chapter aims to address the theory related to information technology it, the information technology, and the foundation for information technology. thus, computer technology and communication technology will be mentioned, as it in the audit process in Iraq, and or characteristics of the external auditor in its environment will be explained.

2.1 CONCEPT OF INFORMATION TECHNOLOGY (IT)

The terms information technology or IT are frequently used. Around 1947, Computers were discovered as the key element that rose to popularity in the late 1970s signaling the beginning of information technology. Moreover, Information technology (IT), which is spelled Technology in Indonesian and Technology in English, is derived from the Greek word *techne*, signifies art. Manufacturing sensory-observable items for human needs or ideas is known as technology. In contrast, the words "Informasi" (Indonesian) and "Information" (English) originate from the verb "to inform," which means to tell (Parra et al., 2023, p. 2).

The Oxford Dictionary defines information technology as the study or use of electronic equipment, primarily computers, for the archiving, processing, and dissemination of information, including text, numbers, and visuals. Furthermore, information technology is limited to computer technology (software and hardware) for data processing and storage as well as communication technology for information transfer.

In addition, Carr & Smeltzer (2002, p. 293) IT is defined as the use of computer-to-computer linkages with significant suppliers, automated purchasing systems, supplier connections through electronic data interchange, and information systems. In a study of information technology in Indonesia published a year later by (Sarosa & Zowghi, 2003, p. 165), information technology was defined as "all the technology utilized by an organization to collect, process, and transmit information in all its forms. As a result, hardware (such as a scanner, printer, computer, etc.) and software will be included in information technology (operating systems, application development language, office applications, etc.).

Information technology, in the words of another researcher (Attaran, 2003, p. 442), It is described as 'the ability to transfer data, information, and knowledge to humans and

processes through the use of computers, software applications, and telecommunications' by organizations,' according to another researcher (Attaran, 2003, p. 442). Furthermore, (Tan et al., 2009, p. 225) recently defined information technology as the use of computers, software, and hardware required for internet connections, among other information and communication technologies.

Furthermore, Information technology (IT) with its advanced tools is of great importance. Nothing has affected human life since the Industrial Revolution as it has been affected by information technology, which has become indispensable in the lives of people, institutions, and countries. The world is witnessing an accelerated technical transformation and successive developments in the field of computers.

Software, communication devices, means, and this huge amount of information grows and moves easily. IT, one of the most crucial tools for various business establishments, both profit and nonprofit, is now utilized in many aspects of their operations. This includes planning, supervising, documenting, handling administrative or accounting matters, and other facets of the business. Concurrently, there was a growing evolution in the auditing procedure within organizations and enterprises as they kept up with advancements in information technology. This led to the emergence of computer auditing, also known as computerized systems auditing (Mohammadi et al., 2014, p. 2299).

It should be noted that, despite the fact that information technology depends on computers at every stage of its development, there is no universally accepted definition of the term at the scientific, practical, or local levels. This is because information technology has created a wide range of environments and businesses.

Furthermore, Lucas et al,(2021) outlined information technology (IT) as any technical discipline used in It refers to the handling and transportation of electronic data, involving barcode readers, mainframe computers, and microcomputers, spreadsheet software, communication, and network hardware are all examples of information technology. In their final section, (Dewi, 2022, p. 1949) mentioned information technology (IT) as a field of technology that combines computer processing with high-speed communication lines for the

transferring of information, speech, and video. The following two technologies are described as the foundation for information technology:

2.1.1. Computer Technology

Hardware used in computers, such as printers, fingerprint scanners, and CD-ROMs, is referred to as computer technology. A computer is a flexible tool that may be used under software control to turn input into information (Pandolfi, et al., 2018, p. 1265). An instruction set, known as a program, directs a computer to carry out the tasks that its creator has specified. Processed data is referred to as information to make it usable as decision-making material, whereas data is a form of data that might be in the form of numbers or graphics for computers (Arden, et al., 2021, p. 4).

2.1.2 Communication Technology

Long-distance communication technology is under the category of telecommunications or communication technology. The telephone, radio, and television are examples of this type of technology. The previous definition of information technology states that it integrates technologies related to computers and telecoms enable the organization to operate more effectively within the technological environment. Performance and IT are interrelated (Islam, et al., 2021, p. 5). The creation of hardware, software, data, and communication networks is among the IT advancements that have already taken place. Hardware, software, data storage, and communication technologies are the elements that make up IT infrastructure, according to (Dewi, 2022, p. 1949). Some authors separate hardware components of storage technology into IT components, which include hardware, software, and communication (Setyowati et al., 2021, p. 183).

2.2 IMPORTANCE OF INFORMATION TECHNOLOGY

The focus of IT is on various software applications and programs that process, store, secure, and ultimately communicate and transmit data. So, in many nations, information technology is becoming a significant driver of development. The country that will see improvement and development in the immediate and long term is the one that is currently dominating information technology. Globalization has been accelerated by information technology. Thanks to contemporary technology, there is no longer any such thing as a remote area because they have improved information circulation and distribution.

It streamlines duties and has safeguarded the globe from numerous outdated techniques that waste resources, time, and energy; as a result, productivity and profitability have increased. As (Nikoloski, 2014, p. 304) claims, the corporate world is becoming much more competitive because of technological advancements. Through the use of IT, firms have evolved from regional players to rivals in the international and domestic markets. Businesses had to adapt their operations to better and more recent technological breakthroughs because of technology, which also made them more adaptable (Nikoloski, 2014, p. 304).

Information technology, which is now regarded as being essential to economic growth and competitive advantage, has become the backbone of today's global advancement. The digital revolution had an impact on people's lives; It has had a significant impact on social, cultural, and economic life. Achieving rapid progress in the business and governmental sectors is crucial for economic prosperity. Numerous facts have been discovered thanks to the advancement of these technologies.

Contemporary technology, especially the internet, facilitates collaboration, study, and the swift and affordable exchange of knowledge and scientific discoveries. Nowadays, everyone can easily and rapidly connect to any place in the world due to increased connectivity. Many emerging nations face a limited technology culture due to a lack of government backing, in contrast to economies that are rising and already developed.

The UN emphasizes that developing nations need to proactively plan and take an active role in the development of technology capabilities that satisfy their needs (Kia et al., 2000, p. 333). But in developing nations, it's still difficult to keep up with the rapid advancement of IT. It is crucial for these nations, according to (Wijnhoven & Wassenaar, 1990, p. 37) to plan for the organizational adjustments required for successful system adoption.

Information technology has carved out a distinct niche for itself in the contemporary corporate world as a key driver of learning and development for executives, staff members, and clients alike. Information technology, according to Berisha-Shaqiri (2014, p. 76) is changing not only how humans live, but also how businesses operate. Businesses can use information technology to reach a wider audience, swiftly introduce new goods and services, and collaborate with global suppliers and partners. Information technology has greatly

contributed to the transition from an industrial to an information society facilitates the transition from industrial to knowledge economies.

Managing IT alters how people and businesses behave in general. This can be seen in a variety of ways, including in artificial intelligence, email, information management systems, local networks, and decision-making systems. According to (Kundishora, 2010, p. 3), information technology gives countries the chance to eliminate poverty while promoting economic growth and addressing the digital divide. The development of IT, which greatly boosts the GDP of some developed and emerging nations, has been observed. Firstly, in most developed and emerging nations, it has a significant impact on increasing domestic revenue, which is crucial for reaching development objectives and goals. It also helps to lessen poverty and enhance communal circumstances. According to (Berisha-Shaqiri, 2014, p. 75), information technology plays a crucial role in enabling businesses to expand into new markets, create innovative services and products, and foster creativity. It can be concluded that IT plays a significant role in the development of new goods and services. Information technology is also frequently linked to innovation, which might result in social changes from a classical to a technological society.

In his study, El Mallushi (2019, p. 38), he mentioned that IT is now a crucial component in the precise and quick transfer and processing of massive volumes of data handled by international organizations, ports, and transportation businesses. IT may be used for a number of purposes, such as providing firms with relevant information, facilitating participant contact, and improving or creating new services. Furthermore, (El Mallushi, 2019, p. 40) mentions that this created fresh viewpoints and opportunities arise for e-commerce, e-learning, e-government, e-health, e-environment, post-war rebuilding, and numerous other applications that are extremely advantageous for the social and cultural elements of development, as well as economic growth.

The knowledge and demands of the real world are not appropriately researched, and many projects fall short. Real needs and how to provide them are questions that are inexorably brought up when a multifaceted service or new brand is created. The Sustainable Development Goals (SDGs) establish a lofty global objective: to ensure that every citizen of the least developed economies has acceptable access to the Internet and to communication

and IT. Despite the global phenomenon of technological growth, there are still notable national disparities.

According to Gupta et al. (2010, p. 107), companies have enhanced their performance in raw material management and procurement, readjusting or overcoming competitive disadvantages in the market through the utilization of information technology.

To achieve this goal and close the digital divide, the public and business sectors, as well as the global community, will need to work hard. According to (Kramer et al, 2007, p. 6). Through the use of IT, individuals, companies, and groups can improve their financial prospects and create wealth for others, benefiting everyone and fostering interdependence. (Kramer et al, 2007, p. 7) mentions that IT plays a significant role in modern management, including automating the organization of the job and minimizing correspondence and effort-intensive chores. The administration, on the other hand, needs to adapt to utilize technology to stay up-to-date and expedite the achievement of the specified objectives. Thus, across individuals, businesses, and states as a whole, information technology plays a crucial and successful role.

Lastly, information technology fosters the emergence of new societies and produces novel insights into the social and economic domains. The IT revolution is expanding quickly and impacting everyone's vitality, unlike the industrial revolution of the previous century. It does not distinguish between individuals based on when they acquire knowledge and information. IT can travel to any part of the world, regardless of political or geographical restrictions. Therefore, it is essential to properly create and preserve this technique by emphasizing its importance on both large and small scales, as well as by instructing and educating people on how to use it (El Mallushi, 2019, p. 41).

2.3 INFORMATION TECHNOLOGY (IT) IN THE AUDIT PROCESS IN IRAQ

One of the most important fields in the business sector is auditing. It has a significant role not only in the business sector but also in all of the sectors. Auditing can be defined as the process of checking and evaluating accounting transactions of companies and government units by reviewing their records (Taher, 2020, p. 253). Auditors are responsible

for discovering two types of errors, which are intentional errors and unintentional errors. The former happens when there is intent to hide some mistakes or losses that companies face. The latter occurs if there is a lack of knowledge or misconception (Ionescu & Ionescu, 2016, p. 176). Because of this, auditors bear the heavy burden of checking the accuracy and reliability of vast amounts of data, which occasionally results in inaccuracies or mistakes in the audit findings. As a result of several failures to find problems, the audit profession has recently come under heavy criticism. As a result, electronic auditing had to be adopted as a new method of auditing to boost the effectiveness of this process. Many businesses began utilizing computers and technology in the auditing process between 1950 and 1970 (Ajao et al., 2016, p. 34). By eliminating the need for paper and manual processes, this uses advanced techniques for efficiently auditing the data. As a result, it has become imperative for institutions and auditing organizations in Iraq to implement modern methodologies to improve the productivity and caliber of work as a key factor in maintaining the integrity and caliber of the transactions.

Because of the lack of coordination and rehabilitation of the auditing cadres and programs employed in Iraq, the audit profession has not developed to the same degree as it has in other nations. Many nations today utilize sophisticated auditing software to boost audit effectiveness through the use of contemporary technology. Since computers and software have the potential ability to arrange, store, process, and save files, using technology is one of the most crucial criteria utilized in a variety of fields to boost the ability and quality of work.

To ensure the accuracy of the records, computers have long been utilized in the accounting profession (Taher, 2020, p. 254). This use has a real potential to deliver precise and timely information. The use of technology also improves the accuracy and speed of integrating an organization's internal systems with its external partners. As a result, technology must be used in the auditing process in place of outdated procedures. That will make information analysis and evaluation more effective and efficient (Taher, 2020, p. 254).

Advancements in technology and the application of information technology in diverse domains can provide several benefits for individuals, communities, and commercial domains such as (Salih, 2019, p. 227):

1. As many companies are now using information technology to process their data electronically, conduct business, produce goods, offer services, and exchange knowledge, businesses employ information technology. Utilizing electronic methods for conducting audit work is referred to as 'information technology in the audit field.' This is because employing these methods facilitates the creation of an electronic database for audit service recipients and allows for a more precise selection of audit samples from establishments, thereby enhancing the validity of the sampling results.
2. Computerized auditing emerged due to the growing need for the audit process to adapt to the advancements in information technology. Though it was less established, interest in the use of IT in the audit process, also known as automation audit, has grown over the past 20 years.
3. The spread of IT to serve different sectors, including the auditing sector, necessarily requires the provision of basic elements that help the wider spread, as the material investment is one of the necessary elements for the requirements of the use of IT, and the human qualification and provision A cognitive level that leads to the acceptance of those in charge of information systems to use this technology.
4. The debate over the use of IT in the audit process and the nature of computerized systems auditing became more heated at that time. Applying this technique in Iraq has become vital to improving the accuracy and quality of the audit process due to the successful outcomes many other countries have experienced using computers in the audit process.

2.4 CHARACTERISTICS OF THE EXTERNAL AUDITOR IN THE INFORMATION TECHNOLOGY ENVIRONMENT

To increase, the audit process required complex methods. To be employed in the audit process with efficiency and effectiveness, auditors must keep up with technological advancements, which necessitate the acquisition of material and technical skills. These skills are reflected in the technician training for the human element and the provision of technical departments to assist, as well as in the availability of electronic networks and accounting systems, and it is for these reasons that the availability of electronic networks and accounting systems must be available. To stay current with these advancements, it's crucial to train

auditors in computer technology, (Alsharairi & Alhosban, 2019, p. 205) Following are the skills that the auditor should possess, according to the American Society of Certified Public Accountants (ASCPA). the capacity to plan, construct, and produce advanced systems flow maps, as well as to assess them to find strengths and flaws:

- a) Programming language proficiency in general.
- b) Knowledge of computer review techniques.
- c) Possess the knowledge and expertise necessary to comprehend and become accustomed to the extensive internal control system, including internal computerized control.
- d) Basic understanding of computer systems, parts, functions, and capabilities.

Additionally, (Alsharairi & Alhosban, 2019, p. 205) , have mentioned the use of IT at work to have the following effects on the external auditor:

- 1) According to the nature of their work, external auditors must conduct both particular and general auditing programs.
- 2) Preparing the auditor academically and scientifically through training programs to meet the demands and dangers of the information technology workplace.
- 3) Applying auditing criteria relevant to the electronic work environment while staying current with technology advancements.
- 4) Computerization of audit methods by the outside auditor to obtain an objective an assessment of the accounting records fairness.

How competent the outside auditor is to perform electronic audits has increased as a result of the use of IT tools, it has evolved into one of the most important auditing tools for external audits. This has required the external auditor to comprehend and absorb the use of IT tools (Alsabahi et al., 2021, p. 2). Managing accounting data and ensuring its accurate recording, processing, and reporting, an approach called electronic data auditing relies on technology and advancements in electronic information technology. This aids the internal audit role in managing and controlling financial operations risk.

The effect of using electronic tools in the workplace on the auditing and accounting systems. Accounting aims to record the establishment's operation, extract results, maintain

the establishment's assets, and protect its stakeholders' rights while also giving the management and stakeholders the necessary information on the Activity, results, and financial status of the company to facilitate decision-making. The structure and practices of accounting are altered by the use of computers, as is how the data is operated upon, but the goals remain the same.

Despite not being able to change accounting objectives, the use of computers has the following effects on the audit process, its components, and their interrelationship (Alsharairi & Alhosban, 2019, p. 205). The impact of computers on the accounting staff: Due to the use of computers in accounting, these documents must be formatted differently, or a new set of documents must be created that incorporates the data from the original documents in a way that is compatible with the facility's electronic accounting software and the coding system used to access data saved on magnetic disks, materials, and preservation techniques. How the collection of accounting books has been impacted by computers: While using a computer, magnetic tape and magnetic disks serve as accounting books, despite the fact that organizations employ a variety of accounting books.

The effect of computer uses on financial reports the ability to present information on a visual display, together with the precision and speed with which financial reports could be accessed, all contributed to the speed at which information could be changed before being printed or saved. Furthermore, using a computer and its effects on the accounting manual Computer use has aided in the development of the procedure for creating the accounting manual and maintaining the confidentiality of all recorded information, including gross or subordinate accounts, and accurately classifying accounts.

2.5 LITERATURE REVIEW RELATED TO INFORMATION TECHNOLOGY AND QUALITY OF INDEPENDENT AUDITING

Regarding the information technology and quality of independent audit, extensive pilot studies have been conducted and experimental relationships and effective have been established between information technology and quality to audit process stages such as the planning, implementation of control tests and basic tests, analytical procedures,

documentation performance, and completion of the audit process and preparing the auditor's report.

Almaleeh, (2021) In her research, Investigating the impact of digital transformation on audit quality: preliminary results from a Delphi study. The research aims to explore the influence of digitization on audit quality. To do this, a panel of Egyptian auditors reviewed Delphi research that included 20 estimates concerning the level of auditing quality associated with digitization. Some findings from the investigation indicate that respondents believe digitization will lead to significant future changes in the variables influencing audit quality, particularly concerning the expertise of auditors, the audit procedures carried out, and the timeliness of audit reports. Other findings show that experts do not expect a significant impact of technological development on the factors that determine audit quality, particularly in areas where audits become less useful or out of date and users start to lose trust when a regulatory gap emerges between auditing requirements and the new business reality or when the auditing expectation gap widens.

In Turkey, research conducted by Ertaş & Güven (2008) explored the effects of information technologies on the auditing process: This study aimed to determine the level of use of technological tools in the daily practices of auditors. In addition, the research intended to determine the results obtained by using new technologies in the audit process. According to the research findings, it was determined that the auditing firms investigated made great use of computers in their daily activities. In terms of planning, control, and recording processes, the areas where technical tools used the most were recording and planning activities; In the control of audit activities, it was noted that fewer information technologies were being used. It has been determined that with the introduction of information technologies in audit firms, an increase in audit quality and a decrease in audit costs have been achieved.

In their study, Elefterie & Badea (2016) aimed to highlight the role of information technology in the audit process and the benefits of employing computerized programs in this contemporary activity known as an audit. Additionally, they used a wide range of information technology that was appropriate for all types of workloads, including smartphones, smart

TVs, smart applications, and many others. The usage of information technology was highly advantageous from the standpoint of both employees and business managers because of various built-in benefits like simple information access, shorter workdays, simpler task control, and so forth.

Furthermore, Hashem & Sujud (2020) addressed the Effect of IT Use on the Standard of Auditing: According to the study's findings, from the auditors' point of view, the level of auditing at offices and audit companies operating in Lebanon was significantly impacted by the use of computerized auditing. and also, the results of the study showed that the reduction in the time required to complete the audit and the related costs was the most significant benefit of employing electronic auditing. The second benefit was the validity of electronic documents as evidence of veracity, after this. The third position went to the use of information technology, it further offered a reassuring level of certainty regarding the absence of material inaccuracies in the financial accounts. The challenges of utilizing IT in Lebanon's offices and audit firms came in at number four, last on the list.

In the case of Albania, Isa et al.(2020) examined the impact of information technology on the auditing profession. The result Technology aids in the development of the auditing profession and was used in both administrative and technical audits. Auditors believed that audit technology was crucial for risk assessment and sampling, which was why administrative auditing procedures were most commonly used. Using audit technology can also increase the quality of audits. However, the audit process was unaffected by the lack of IT audit training. The study's drawbacks included its very tiny response rate. First, although it's possible that respondents had the most interest in the topics under investigation and, hence, were also the most knowledgeable, their opinions might not be representative of those who didn't participate in the survey. Second, the sample was unbalanced because four major big companies overrepresented respondents from other audit firms.

Marei & Iskandar, (2019), in their research, analyzed, the effect of computer-assisted auditing techniques. (CAATs) on the evolution of the audit process: an evaluation of the auditors' Performance Expectations: this suggested that using CAATS in auditing was projected to be high because auditors perceived a greater degree of performance expectancy

from its utilization. These results had several ramifications. First, audit companies might establish and actively promote training programs to enhance auditors' knowledge and abilities, making it simple to learn and use CAATS. By doing this, auditors' performance expectations were improved, and as a result, CAATS usage was raised, and the audit process was developed. These findings indicated that this important factor could raise the likelihood of Information technology's effect on the growth of the auditing process.

In the same context in Iraq, Salih (2019) conducted a study entitled: Does Auditor Objectivity Affect Information Technology's Relationship with Auditing's Efficiency and Effectiveness? The findings of this research confirmed that both IT and auditors' objectivity had a beneficial Influence on the effectiveness and efficiency of the audit process, as well as the fact that the former had a sizable impact on the latter. In this situation, the study suggested that the decision-makers take the aforementioned considerations into account when conducting the audit. Furthermore, the results of this study indicated that IT had a considerable impact on the audit process' efficiency and effectiveness and that it mediated the effect of the auditor's objectivity on those factors. To plan, direct, monitor, and review their separate works, auditors must be informed of current developments in IT and its infrastructure. Managers and auditors could benefit from the information presented here since it gave them a broader understanding of how computers and IT systems were used in audits.

Additionally, Alsharairi & Alhosban (2019) intended to accomplish the following goals to highlight the significance of using audit programs to improve the effectiveness of external auditors and to identify the influence of using electronic work environment tools to enhance the efficiency of external auditors. Most outcomes external auditor's ability to test the mechanisms for controlling the electronic system was made possible by computer hardware technology. The external auditor was able to verify properly that the data provided for processing had been appropriately licensed and translated into computer language, thanks to the use of technology and computer tools. Most strongly advised: There should be regulations and laws governing the work of external auditors in organizations using computers, the application of research to internal auditors or financial managers, and sectors, which aid in integrating viewpoints in the audit process.

Mustapha & Lai, (2017), examined an empirical analysis of Malaysian audit firms' use of IT in audit processes. The outcome showed that information technology was heavily utilized throughout audit procedures. In particular, information technology was employed to produce audit work papers. Additionally, the outcome showed that information technology was utilized extensively during auditing operations. The production of audit working papers, audited financial statements, and sample selection during audit processes all make use of information technology. The findings also showed that in their firms, top auditors and audit managers mostly employ information technology. The findings seemed to indicate that the auditors' motivation for using information technology was that it allowed them to complete their work more quickly and effectively.

Finally, Oginga (2013) investigated the influence of computerized auditing adoption on audit quality in Kenya. The study revealed a significant increase in the use of computerized auditing, rising from 13.3% to 24.8%. Firms embracing computerized auditing experienced improved audit quality, faster processes, expanded market share, and enhanced auditor performance. Those reliant on manual systems expressed openness to computerized auditing but cited funding constraints as a major obstacle. The research emphasized the substantial impact of computerized auditing on audit quality, recognizing it as a crucial step amid ongoing technological changes in business and the auditing profession.

SECTION 3: ANALYZING EMPIRICALLY HOW INFORMATION TECHNOLOGY AFFECTS THE QUALITY OF INDEPENDENT AUDITING (METHODOLOGY)

The preceding section substantiated the impact of information technology on the quality of independent audits through the utilization of both theoretical frameworks and empirical evidence. The literature review portion is helpful and aids in methodology selection; therefore, in this section, the objective and importance of the research, the scope of the research, the research method applied, and the research hypotheses are discussed, and the discussion will focus mostly on sampling and sample size technique, population, study method, data sources, and variables of measurement tools. In addition to the data analysis, the data must be quantitatively analyzed to produce trustworthy results. Within the Statistical Programmed for Social Sciences (SPSS), the findings are given.

3.1 THE STUDY'S OBJECTIVES AND IMPORTANCE

The eventual objective of this study is to investigate the impact of information technology on quality of independent audit, including the audit process stages of planning (PL), implementation of control tests and basic tests (ICT and BT), analytical procedures (AP), documentation performance (DP), and completion of the audit process and preparing the auditor's report (CAP and IA). Additionally, Highlights the key concepts of auditing, including its goals, benefits, and the utilization of IT. Additionally, it assesses the effectiveness of the audit process.

This research is noteworthy because it examines the extent to which IT courses and computerized applications are used by audit companies during the audit process and how this affects the overall quality of the audit. It highlights one of the most recent developments in accounting: the potential use of IT and current electronic devices to improve auditing quality. Moreover, the study underscores the importance of staying abreast of advancements and adopting new methods, particularly in the field of auditing, and one of the fundamental prerequisites for quality control is the integration of IT into the audit process. Additionally,

it is crucial to provide training for supervisors and staff on effectively utilizing IT to enhance productivity.

3.2 THE RESEARCH'S SCOPE

The current study's scope includes empirical analysis and explanation of the information technology and quality of the audit process, which means that the study applied within the north of Iraq in audit firms' cities of Duhok, Erbil, and Sulaymaniyah during 2022–2023. The study's main area of investigation is the impact of using IT on the quality of independent audits, as stages of the audit process include planning, implementation of control tests and basic tests, analytical procedures, documentation performance, and Audit firms in northern Iraq have concluded the audit process and issued the report of auditor based on data obtained from the head of the audit team, senior auditor, auditor, and auditor assistant.

3.3 THE RESEARCH HYPOTHESES

The use of IT in auditing the research hypotheses was suggested as one of the most crucial methods to be put into practice based on the evaluated literature and the results of empirical investigations. The study's central hypothesis is: How much does information technology use affect the quality of independent audits, depending on the demographic parts and stage of the audit process? The research hypotheses developed within the framework of the purpose and importance of the research are as follows:

First Research Hypothesis

Ho: There are no statistically significant differences in gender between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in gender between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

Second Research Hypothesis

Ho: There are no statistically significant differences in ages between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in age between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

Third Research Hypothesis

Ho: There are no statistically significant differences in academic qualifications between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in academic qualifications between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

Fourth Research Hypothesis

Ho: There are no statistically significant differences in the number of years of experience in auditing of the auditors, between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in the number of years of experience in auditing the auditors, between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

Fifth Research Hypothesis

Ho: There are no statistically significant differences in professional certification, between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in professional certification, between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

Sixth Research Hypothesis

H0: There are no statistically significant differences in the career center, between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in career centers, between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

Seventh Research Hypothesis

Ho: There are no statistically significant differences between the independent audit process stages of the impact of information technology use.

H1: There are statistically significant differences between the independent audit process stages of the impact of IT use.

Note: stages of the audit process: Planning Stage (**PS**), Implementation of Control Tests and Basic Tests (**ICT and BT**), Analytical Procedures (**AP**), Documentation Performance (**DP**), Completion of the Audit Process Issuing the Auditor's Report (**CAP and IAR**).

3.4 THE METHODS USED IN THE STUDY

The aim of this study is to examine how information technology impacts the quality of independent audits at audit firms. A quantitative method is utilized to fulfill the study's objective, as stated by. (Sreejesh et al., 2014), the use of a quantitative study method is appropriate for collecting and analyzing data from targeted survey questions. Additionally, it builds upon the initial ideas more, and the data findings are easier to attain and more eager to be given. The theoretical component of the descriptive technique, which is important in scientific research, is also a factor in this study. to explain theoretical notions, particularly those connected to information technology and quality of independent audit, as a useful aspect. The influence of information technology on quality of independent audits and which phases of the audit process will depend on the analytical method based on developing a questionnaire (Lochmiller & Lester, 2015, p. 118; Sekaran & Bougie , 2016, p. 36).

It is suitable for data collecting, the research design is thought to be more suitable for its goal since it allows survey respondents to offer pertinent data on study topics. As

mentioned earlier, the study used the quantitative research approach by way of its design (Ragab & Arisha, 2018, p. 7).

3.4.1 Data Sources

The study included both primary and secondary data. Secondary sources: Reliance was made on scientific books, previous studies, and research published in periodicals and scientific journals, statistics, and websites dealing with the study of the impact of applying IT on the quality of independent auditing in audit firms operating.

Primary Sources: A survey questionnaire was created to assess how using information technology affected, from the perspective of audit firms, the quality of operational auditing, and then dumped and analyzed using the statistical program. This feature of the questionnaire is crucial since it ensures that the results are objectively scientific. Additionally, the questionnaire facilitates the researcher's ability to gather a significant amount of empirical data from survey samples at a certain moment (Kaur et al., 2018, p. 60). In addition, the questionnaire is cheaper to construct and gather data using than alternative methods that demand more work and cost more money, such as traveling and taking public transit (Sekaran & Bougie , 2016, p. 56).

3.4.2 The Study Population and Sampling

The total population for the current study comprises auditors, and it is estimated that there were about 66 respondents in total objectives, the target community consists of audit firms operating in northern Iraq which is the cities of Duhok, Erbil, and Sulaymaniyah, as a clear community for the study, as the number of audit firms operating in the northern Iraq which is the city Duhok, Erbil, and Sulaymaniyah according to the latest statistics for the year 2022 AD. The Accountants and Auditors Association has 72 active local and international offices practicing the auditing profession.

The samples are obtained from the north of Iraqi audit firms to test the impact of information technology on the quality of independent audits. Audit firms were tested as their IT has a significant influence on their audit process. Based on that, the surveys were distributed among the branch auditor, head of the audit team, senior auditor, auditor, and auditor assistant were selected to reply to the questionnaire statements as They are well-

informed about information technology in the audit process. Furthermore, the sample size is (66) respondents from audit firms operating in the north of Iraq which are Duhok, Erbil, and Sulaymaniyah.

3.4.3 Variable of Measurement Tools

The five-point Likert scale was used to measure the variables. This included strongly disagree, disagree, agree neither disagree, agree, and strongly agree. This scale, in the researcher's opinion, is adequate since a lower scale would not be sufficient to adequately capture replies. A higher scale would leave the results too confusing. The questionnaire that the researcher used was adopted by Nguyen & Nguyen, (2020), Isa et al., (2020), Almaleeh, (2021), Hashem and Sujud (2020), Salih (2019), and Mehic (2014); The reason the researcher chose this was that it was a study of a similar nature to the one researching.

The first questionnaire included general information such as the demographic details of the respondents, including gender, age, academic qualifications, years of experience, professional certifications, and career centers. The second was the survey question, which was divided into five primary sections. This section of the survey consists of five sections: section 1 was the planning stage (PS), section 2 was the stage of implementation of control tests and basic tests (ICT and BT), section 3 contained analytical procedures (AP), section 4 was documentation performance (DP), and section 5 was the stage of completing the audit process and issuing the auditor's report (CAP and IAR).

3.4.3.1 Audit Process Scale

It has been discovered that additional criteria are significant for the quality of IT audits and that the proportional weight of these elements varies between IT and financial auditors (Stoel et al., 2012, p. 60). Organizations are being forced to keep up with the situation because of human demand and curiosity for new technologies. As the evolution of IT in the modern world is mostly driven by requirements and needs, it is crucial to understand how methods of operation have evolved from paper-based systems to electronic information systems and software (Yeghaneh et al., 2015, p. 201).

Table 3.1: Indicators of Information Technology on the stage of the audit process.

Author's Year	Constructs (stages)	Indicators	Definition
(Nguyen & Nguyen, 2020)	Planning Stage (PS)	PS1	The Planning Stage (PS) indicates the importance of using information technology in planning. Its ability to assess audit work outcomes more credibly and with higher quality contributes to elevating the standard of the audit process, along with aiding in the precise calculation of the sample size, it assists in the selection of sample items and in creating a time budget for the duration of the audit procedure.
(Salih, 2019)		PS2	
(Almaleeh, 2021)		PS3	
		PS4	
(Hashem & Sujud, 2020)		PS5	
		PS6	
(Isa et al., 2020)		PS7	
		PS8	
(Mehic, 2014)	Implementation of Control Tests and Basic Tests (IC & BT)	ICT & BT 1	The stage of Implementation of Control Tests and Basic Tests (IC and BT) indicates that Information technology is beneficial for evaluating efficiency and understanding the internal control environment along with its protocols. The effectiveness, efficiency, and quality of this stage are improved by the effectiveness of internal control, the quality of its implementation, the verification of the timeliness and accuracy of financial activities during testing, and the assessment of control risk.
ICT & BT 2			
ICT & BT 3			
ICT & BT 4			
ICT & BT 5			
ICT & BT 6			
	Analytical Procedures (AP)	AP1	Utilizing information technology enhances the quality of the auditor's analytical procedures (AP) by enabling a more precise comparison of the facility's actual financial ratios over time., or with the estimated similar ratios, and thus identify deviations and find out their causes, and information technology helps the auditor to examine the company's finances and financial statements for the current fiscal year, as well as other years, with ease.
		AP2	
		AP3	
		AP4	
		AP5	
		AP6	
		AP7	
		AP8	

	Documentation Performance (DP)	DP1 DP2 DP3 DP4 DP5 DP6 DP7 DP8	Documentation performance (DP) indicates that at this stage, the auditor utilizes information technology to obtain additional evidence regarding the object under audit. Additionally, the auditor can verify the balances of multiple accounts more quickly and precisely, summarize findings in alignment with the audit's role, and reach objective conclusions by accurately documenting the audit process. The auditor's ability to swiftly gather evidence makes all of this possible.
	Completing the Audit Process and Issuing the Auditor's Report (CAP & IAR)	CAP & IAR1 CAP & IAR2 CAP & IAR3 CAP & IAR4 CAP & IAR5 CAP & IAR6 CAP & IAR7 CAP & IAR8	Completing the Audit Process and Issuing the Auditor's Report (CAP and IAR) implies that the use of IT occurs at the last step of the audit process, which is when the audit is finished, and the results are released to assess the fairness of the lists. The facility's financial situation and its capacity to accurately portray that situation. In addition to the process of disclosing subsequent events that occur after the date of the financial position, and estimating the value of potential future obligations enhances the quality of the audit process.

To measure the stage of the audit process in the north of Iraq audit firms, as shown in Table.3.1, the stage of the audit process was adapted from Nguyen & Nguyen, (2020), Isa et al., (2020), Almaleeh, (2021), Hashem and Sujud (2020), Salih (2019), and Mehic (2014) these stages of audit process are Planning (PS), Implementation Of Control Tests And Basic Tests (ICT and BT), Analytical Procedures (AP), Documentation Performance (DF), and Completing The Audit Process And Issuing The Auditor's Report (CAP and IAR), Nguyen & Nguyen, (2020), mention it that the planning stage use of IT helps to improve the quality of the audit process, by calculating the sample size more accurately, and selecting the

vocabulary of that sample, or by assisting in the creation of a budget for the time required to carry out the audit procedures and phases more effectively. As well as preparing the timetable needed to complete the audit process that the use of IT in the planning process makes the process of calculating the audit sample easier. Moreover, it helps the auditor to complete the calculations in less time and more quickly, which enables the auditor to use his time to perform other operations such as focusing on analytical procedures. Another example to illustrate this point is that the study that discovered the substance of using IT in the audit planning process, as the auditors confirmed in this study that the use of IT increases the quality of the first stage of the audit process.

According to Salih (2019), when conducting control tests and basic operational testing, audit companies heavily utilize computerized systems, electronic technologies, and IT. This demonstrates how IT may be used to analyze and understand the internal control environment and its protocols. It is used to appraise the quality of its performance, determine the efficacy and efficiency of internal control, confirm the correctness and promptness of financial operations during testing, and estimate the risk of control. Each of these elements plays a part in the efficacy, efficiency, and quality of this phase. Regarding analytical operations, IT significantly enhances the auditor's capability to perform them with greater quality.

By aiding in the evaluation of the client's ability to proceed, contrasting the facility's actual results with those anticipated to spot material deviations, and assisting him in reviewing the reports and lists of rival companies, in addition to figuring out the extent of logical and realistic operational and financial balances at the facility. Almaleeh, (2021). Regarding the measure, Hashem, and Sujud (2020), argued that the documentation performance according to the relative arithmetic average for the use of electronic technologies and applied programs, using information technology enhances the quality of independent audit work and its documentation.

This is a result of the unique role that information technology plays at this stage, which involves the auditor gathering additional information about the item to be examined and calculating the balances of many accounts swiftly and precisely, summarizing the audit

results, and reaching objective conclusions, Isa et al. (2020). As this is the final stage of the audit process, the stage of completion of the audit process and the issuance of the auditor's report demonstrated the utilization of IT at this stage as the route to achieving the primary goal of the audit process, which is to determine the extent to which internal control has been breached by the company.

The financial statement's fairness and their capacity to accurately portray the enterprise's financial position, as well as the process of disclosing subsequent events that take place after the financial position's date and estimating the value of potential future obligations, all of which contribute to raising the audit process's overall quality.

3.5 DATA ANALYSIS

The data was quantitatively analyzed to produce trustworthy results. The Statistical Program for Social Sciences (SPSS) was utilized to analyze the data. Measuring the contribution of the variable elements was done. Graphs and charts were used to tabulate the results and show them in understandable ways. Even a layperson may utilize and understand these techniques with ease.

3.5.1 The Validity and Reliability of the Model

One of the most common criteria used to rate the caliber of research is to establish the model's validity and reliability. It demonstrates the reliability of the research's statistical analysis methodologies and approaches. Validity and reliability are terms that refer to the consistency and accuracy of the study tool (the scale), respectively. Although there is a tight relationship between reliability and validity, they point to various goals that are nonetheless compatible with the main goal of evaluating the caliber of the study. A measurement can be reliable without being honest, but honest measurement is always, in general, dependable. Additionally, dependability and credibility should be considered while organizing a study, developing a research design, and publishing results, particularly in quantitative research.

3.5.2 Internal Validity

Confirming the internal validity of the questionnaire means making sure that it will measure what it was prepared to measure. To verify the validity of the questionnaire tool in this study, it was presented to a group of specialists and those interested in the subject of the study of professors in audit firms, some other experiences in the field of accounting and IT, and some specialists and academics, and they expressed their observations on amending some paragraphs, whether in terms of adding paragraphs or deleting others. Observations on which there was considerable agreement have been considered.

The questionnaire was applied to 66 individuals as a sample, and the correlation coefficients were calculated by the researcher by calculating Pearson's correlation coefficients between the degree of each statement and the degree of validity of internal consistency. Table 3.2 displays the correlation coefficients between every field text. Using IT to enhance the standard of the audit process's planning phase, the overall score of the field, the college of the axis to which it belongs, and the Pearson correlation coefficient were used. Additionally, it was found that the study axes are statistically significant at (0.01) and (0.05). Therefore, the field is considered faithful to what was intended to be measured.

Table 3.2: The correlation coefficient for each paragraph in the field of using information technology to improve the quality of the initial step of the audit process.

		Correlations							
Indicators		PS1	PS2	PS3	PS4	PS5	PS6	PS7	PS8
Pearson Correlation	PS1	1.000							
	PS2	.696**	1.000						
	PS3	.546**	.479**	1.000					
	PS4	.461**	.475**	.704**	1.000				
	PS5	.362**	.344**	.534**	.599**	1.000			
	PS6	.546**	.651**	.518**	.428**	.303*	1.000		
	PS7	.476**	.572**	.369**	.516**	.501**	.583**	1.000	
	PS8	.543**	.582**	.547**	.542**	.487**	.494**	.479**	1.000
Sig. (2-tailed)	PS1								
	PS2	0.000							
	PS3	0.000	0.000						
	PS4	0.000	0.000	0.000					
	PS5	0.003	0.005	0.000	0.000				
	PS6	0.000	0.000	0.000	0.000	0.013			
	PS7	0.000	0.000	0.002	0.000	0.000	0.000		
	PS8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

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

* Correlation is significant at the 0.05 level (2-tailed).

The correlation coefficient for each field's paragraph is displayed in Table 3.3. Utilizing technology to enhance the quality of the audit process throughout implementing control tests and fundamental operations testing, the overall score of the field, the college of the axis to which it belongs, and the Pearson correlation coefficient were used, and it was found that the study axes are statistically significant at (0.01). Therefore, the field is considered accurate in measuring what was intended.

Table 3.3: Correlation coefficient among the paragraphs in the field" The quality of the audit process is improved by using information technology during the implementation stages of control tests and basic operational tests."

		Correlations					
Indicators		IC & BT1	IC & BT2	IC & BT3	IC & BT4	IC & BT5	IC & BT6
Pearson Correlation	IC & BT1	1.000					
	IC & BT2	.533**	1.000				
	IC & BT3	.549**	.642**	1.000			
	IC & BT4	.502**	.598**	.541**	1.000		
	IC & BT5	.393**	.562**	.457**	.762**	1.000	
	IC & BT6	.604**	.425**	.383**	.501**	.456**	1.000
Sig. (2-tailed)	IC & BT1						
	IC & BT2	0.000					
	IC & BT3	0.000	0.000				
	IC & BT4	0.000	0.000	0.000			
	IC & BT5	0.001	0.000	0.000	0.000		
	IC & BT6	0.000	0.000	0.002	0.000	0.000	0.000

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

* Correlation is significant at the 0.05 level (2-tailed).

Source: Prepared by researchers based on SPSS results

Table 3.4: Displays the correlation coefficient among the paragraphs in each field, The study evaluated the impact of using IT on the quality of independent audit and documentation performance within a specific field. The total score of the field, its corresponding college axis, and the Pearson correlation coefficient were examined. The

results indicated that the study axes are statistically significant at a significant level of 0.01. As a result, the field is considered faithful to the measurement.

Table 3.4: Correlation coefficient within the field for each paragraph” The using information technology on the quality of audit and analytical procedures to improving the quality of the audit process”.

Correlations									
Indicators		AP1	AP2	AP3	AP4	AP5	AP6	AP7	AP8
Pearson Correlation	AP1	1.000							
	AP2	.660**	1.000						
	AP3	.482**	.670**	1.000					
	AP4	.392**	.522**	.580**	1.000				
	AP5	.460**	.562**	.681**	.746**	1.000			
	AP6	.605**	.595**	.584**	.515**	.703**	1.000		
	AP7	.533**	.582**	.703**	.547**	.629**	.566**	1.000	
	AP8	.461**	.621**	.763**	.598**	.726**	.581**	.732**	1.000
Sig. (2-tailed)	AP1								
	AP2	0.000							
	AP3	0.000	0.000						
	AP4	0.001	0.000	0.000					
	AP5	0.000	0.000	0.000	0.000				
	AP6	0.000	0.000	0.000	0.000	0.000			
	AP7	0.000	0.000	0.000	0.000	0.000	0.000		
	AP8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

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

* Correlation is significant at the 0.05 level (2-tailed).

Source: Prepared by researchers based on SPSS results

(Table 3.5) coefficient the correlation coefficient between each paragraph of the field " the usage of information technology on the quality of independent audit and analytical procedures " and the total score of the field, the college of the axis to which it belongs, and the Pearson correlation coefficient were used, and it was found that the study axes are statistically significant at (0.01), (0.05). As a result, the field is considered faithful to the measurement.

Table 3.5: Correlation coefficient within the field for each paragraph" The use of IT on the quality of audit and documentation performance" and the overall degree of the field.

		Correlations							
<i>Indicators</i>		DP1	DP2	DP3	DP4	DP5	DP6	DP7	DP8
Pearson Correlation	DP1	1.000							
	DP2	.531**	1.000						
	DP3	.732**	.534**	1.000					
	DP4	.637**	.367**	.653**	1.000				
	DP5	.629**	.519**	.699**	.660**	1.000			
	DP6	.595**	.488**	.727**	.680**	.742**	1.000		
	DP7	.601**	.296*	.576**	.581**	.544**	.674**	1.000	
	DP8	.535**	.272*	.526**	.596**	.561**	.695**	.681**	1.000
Sig. (2-tailed)	DP1								
	DP2	0.000							
	DP3	0.000	0.000						
	DP4	0.000	0.002	0.000					
	DP5	0.000	0.000	0.000	0.000				
	DP6	0.000	0.000	0.000	0.000	0.000			
	DP7	0.000	0.016	0.000	0.000	0.000	0.000		
	DP8	0.000	0.027	0.000	0.000	0.000	0.000	0.000	

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

* Correlation is significant at the 0.05 level (2-tailed).

(Table 3.6) shows the coefficient of correlation between each paragraph in the field "Improving the quality of the audit process through the utilization IT to complete the audit and issue the auditor's report, along with the overall score of the field, its affiliated college, and the Pearson correlation coefficient, revealed that the study axes are statistically significant at (0.01). The field is, therefore, considered true to what was set to measure.

Table 3.6: Correlation coefficient within the field for each paragraph " The quality of the audit process is improved by using information technology during the completing audit process and issuing the auditor's report." and the overall degree of the field.

		Correlations							
Indicators		CAP & IAR1	CAP & IAR2	CAP & IAR3	CAP & IAR4	CAP & IAR5	CAP & IAR6	CAP & IAR7	CAP & IAR8
Pearson Correlation	CAP & IAR1	1.000							
	CAP & IAR2	.619**	1.000						
	CAP & IAR3	.634**	.754**	1.000					
	CAP & IAR4	.543**	.631**	.691**	1.000				
	CAP & IAR5	.478**	.663**	.510**	.522**	1.000			
	CAP & IAR6	.427**	.716**	.494**	.548**	.631**	1.000		
	CAP & IAR7	.446**	.693**	.644**	.620**	.632**	.642**	1.000	
	CAP & IAR8	.554**	.675**	.585**	.495**	.772**	.525**	.686**	1.000
Sig. (2-tailed)	CAP & IAR1								
	CAP & IAR2	0.000							
	CAP & IAR3	0.000	0.000						
	CAP & IAR4	0.000	0.000	0.000					
	CAP & IAR5	0.000	0.000	0.000	0.000				
	CAP & IAR6	0.000	0.000	0.000	0.000	0.000			
	CAP & IAR7	0.000	0.000	0.000	0.000	0.000	0.000		
	CAP & IAR8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

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

* Correlation is significant at the 0.05 level (2-tailed).

3.5.3 Structural Validity

One metric used to assess the validity of the instrument is structural integrity, indicating the degree to which each field of study is closely related to the overall score of the questionnaire's paragraphs and assessing how well the tool's intended objectives have been achieved. At a significance threshold of 0.01 (alpha), Table 3.7 demonstrates that every correlation coefficient in each section of the resolution is statistically significant. This indicates that every aspect of the resolution is faithful to what it was intended to measure.

Table 3.7: Coefficient of correlation between the degree of each area of resolution and the overall degree of resolution.

		Correlation				
Indicators		PS	IC & BT	AP	DP	CAP & IAR
Pearson Correlation	PS	1.000				
	IC and BT	.792**	1.000			
	AP	.839**	.813**	1.000		
	DP	.818**	.842**	.868**	1.000	
	CAP and IAR	.707**	.674**	.691**	.772**	1.000
Sig-(2-tailed)	PS					
	IC and BT	0.000				
	AP	0.000	0.000			
	DP	0.000	0.000	0.000		
	CAP and IAR	0.000	0.000	0.000	0.000	

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

3.5.4 The Reliability Analysis

The statistical software SPSS was used to analyze the study's data. The study employed one-way analysis of variance (ANOVA) and t-tests for independent samples after conducting frequency analysis. A reliability test was conducted on the model constructions using Cronbach's alpha. This test was intended to produce the same results if the survey is administered to respondents more than once under the same circumstances. To put it another way, the reliability of the survey indicated that the results wouldn't significantly change if the survey was administered to respondents more than one over a specific period.

The Cronbach alpha values for all variables were high, as evidenced by the results in Table 3.8; they were planning, implementation of control tests and basic tests, analytical procedures, documentation performance, and completing the audit process and issuing the auditor's report loaded (0.891, 0.869, 0.921, 0.915, and 0.922), which all have values greater than 0.60. These findings show strong dependability and confirm the scale of analyzing the phenomenon under inquiry.

Table 3.8: Result of the Reliability Test

Variables	Items	Cronbach's Alpha	Cut off	Information
Planning Stage	8	0.891	> 0.60	Reliable
Implementation of Control Tests and Basic Tests	6	0.869	> 0.60	Reliable
Analytical Procedures	8	0.921	> 0.60	Reliable
Documentation Performance	8	0.915	> 0.60	Reliable
Completing The Audit Process and Issuing the Auditor's Report	8	0.922	> 0.60	Reliable
Overall	38	0.974	> 0.60	Reliable

Source: Prepared by researchers based on SPSS results

3.6 DATA ANALYSIS AND FINDING

3.6.1 Profile of Respondents

For this investigation, 72 questionnaires were issued or given out. However, only 66 of the 72 questionnaires were returned, yielding a response rate of 91.67 percent, as shown in (Table 3.9). The researcher was able to proofread the questionnaires before the data was processed in the SPSS system by carefully reviewing and making corrections to each questionnaire to find inaccuracies. To efficiently inspect and correct data, two methods were put into place. The researcher went through the data to look for any obvious errors or omissions, but all the returned questionnaires were used since they were complete and accurate for data processing.

Table 3.9: Summary of the case processing

Questionnaires	Respondents	Percentages of Respondents
Questionnaires distributed	72	100%
Questionnaires were not returned	-6	-8.33%
Questionnaires spoilt or rejected	0	0
Total questionnaires realized	66	91.67%

3.6.2 Demography Analysis

In order to identify the respondents' demographic traits, the researcher ascertained their gender, age, academic qualification, and years of experience in auditing, professional, and career centers. In the tables below, they are displayed. Furthermore, those who answered the questionnaire, together with the frequency distributions of their responses, are all shown below.

Table 3.10: The Demographic Features of the Auditor in the audit firms.

Profile	Description	Frequency	Percentage	Cumulative Percentage
Gender	Male	47	71.2	71.2
	Female	19	28.8	100
	Total	66	100	
Age	25 To Less Than 35	5	7.6	7.6
	35 To Under 45	22	33.3	40.9
	45 To Less Than 55	28	42.4	83.3
	55 Years and Over	11	16.7	100
	Total	66	100	
Academic Qualification	Master	29	43.9	43.9
	PHD	8	12.1	56.1
	High Diploma	22	33.3	89.4
	And Other	7	10.6	100
	Total	66	100	
Number Of Years of Experience in Auditing	Less Than 5 Years	1	1.5	1.5
	5 To Less Than 10 Years	15	22.7	24.2
	10 To Less Than 15 Years	14	21.2	45.5
	15 To Less Than 20 Years	10	15.1	60.6
	20 Years and Over	26	39.4	100
	Total	66	100	
Professional Certification	American Chartered Accountant (CPA)	6	9	9.1
	Arab Chartered Accountant (ACPA)	51	77.3	86.4
	And Other	9	13.6	100
	Total	66	100	

Career Center	Head of Audit Team	24	36.4	36.4
	Senior Auditor	8	12.1	48.5
	Auditor	30	45.4	93.9
	Assistant	1	1.5	95.5
	And Other	3	4.5	100
	Total	66	100	

71.2% of the auditors who responded to my questionnaire and worked in audit firms in the northern cities of Iraq—Dohuk, Erbil, and Sulaymaniyah—were men, compared to 28.8% of women. Additionally, the age range of 83.3% was 25 to less than 55, and 16.7% of them were 55 and over. Therefore, 43.9% of the auditors in audit firms in the north of Iraq, had a master's degree while 12.1% of them had Ph.D. Furthermore, 33.3% had a High Diploma, and the rest of them, have other degrees. 45.5% of the auditors had less than 5 to less than 15 years of job experience. 15.1% had 15 to less than 20 years and 39.4% had job experience more than 20 years.

In terms of professional certification of auditors, 9.1% had American Chartered Accountants (CPA), most of them had Arab Chartered Accountants (ACPA), 77.3% and the rest of them were other. In the last term, their career center, 36.4% of the auditors were head of the audit team, 12.1% were senior auditors, 45.4% were auditors, and 1.5%. The lowest percentage were assistants, and the rest were others.

3.6.3 Descriptive Analysis

3.6.3.1 Perceptions of auditors regarding the use of IT in stages of the audit process

For analyzing the perceptions of auditors in audit firms in the north of Iraq, which is the city of Dohuk, Erbil, and Sulaymaniyah. A descriptive analysis was employed to measure the results that were acquired and assess the contribution that information technology made to improve the quality of independent auditing. This statistical analysis was a collection of procedures that use frequencies, mean values (average), standard deviation, and weight of agreement to assess the perceptions or viewpoints of survey samples. As shown in the tables below, all indicators of information on technology are highly agreed upon by respondents. This establishes that when audit firms implement and apply information technology in the audit process, planning, implementation of control tests and basic tests, conducting analytical

procedures, and practicing effective documentation performance related to the effective stage of completing the audit process and issuing the report of the auditor, and information technology significantly influence audit quality.

Furthermore, continuing with the investigation, analyzing the group differences 38 questions that were generated using a 5-point Likert scale and included in the questionnaire were split into five groups. The first eight questions were gathered in the "planning ", which is shown in Tab.3.11. Secondly, questions 9–13 were gathered in the "Implementation of control tests and basic tests" as shown in Tab.3.12. Thirdly, questions 15–22 were gathered in the "analytical procedures" tabulation 3.13. Fourthly, questions 23–30 were gathered in the "documentation performance", as mentioned in Tab. 3.14, The last one, mentioned in Tab. 3.15, the questions 30-38, were gathered in "Completing the audit process and preparing the auditor's report.

Based on a 5-point Likert scale, the following statements (indicators) were scored:

1. **Strongly Disagree**
2. **Disagree**
3. **Neither Agree nor Disagree**
4. **Agree**
5. **Strongly Agree**

First: The first stage of the audit process, which is the planning stage, consists of eight questionnaires. In this section of the survey, perspectives are offered on the extent to which auditors evaluate the impact of using IT on the planning stage of the audit process. The frequencies, averages (mean), standard deviation values, and weight of agreement of the auditors' perceptions of the use of IT in the audit process to improve the quality of independent audits are displayed in Table 3.11 below.

The average response to two of the survey's questions on whether participating auditors take or use IT in the planning phase of the audit process to be carried out in audit firms by auditors was 4.00 and above. Others were between 3.50 and 4.00. Auditors in audit firms that answered the survey compared their statements to other statements. 1. The use of IT in audits helps in calculating and determining the audit sample size more precisely." and 2. The use of IT in audits helps to balance the time better that is needed to carry out stages of audit processes." They agreed with the statement, 7. The use of IT contributes to understanding the nature of the work of the organization and the environment.

According to the survey's responses, generally, auditors believe that the utilization of IT throughout the planning phase of the audit process helps to balance the time better that is needed to carry out audit processes, stages, and calculate the audit sample more accurately in this sense. Furthermore, stages the research, surveys conducted utilizing a 5-point Likert scale to delve into the perspectives of participants regarding the initial phase of the audit process—namely, the planning stage.

This approach helped to uncover valuable insights into participant opinions and attitudes, with a specific focus on eight key questions. From the analysis, the weight of agreement was derived for each question, a quantitative metric that encapsulates the collective consensus among respondents. The weight of agreement, expressed as percentages, offers a clear measure of the extent to which participants align with the statements presented in the survey. The findings revealed a diverse range of agreement, with figures spanning from 71.80% to 81.00%, indicative of varying levels of concurrence among participants.

For instance, a weight of agreement of 81.00% for a particular question signifies that a significant majority of participants, approximately fourth-fifth indicated agreement or strong agreement with the corresponding statement. Similarly, percentages like 80.00%, 76.60%, 77.00%, and 76.40% reflect substantial alignment among participants for their respective questions. These agreement percentages are translated into informative bar charts, where the height of each bar corresponds to the weight of the agreement for its associated question.

This visual representation succinctly captures the overarching consensus achieved across the planning stage-related questions in the survey. The weight of agreement emerges as a crucial measure, shedding light on the harmony of participant viewpoints within the audit process's initial phase. By observing the distribution of these percentages across the questions, a coherent pattern of alignment becomes evident, affirming the credibility and reliability of the findings.

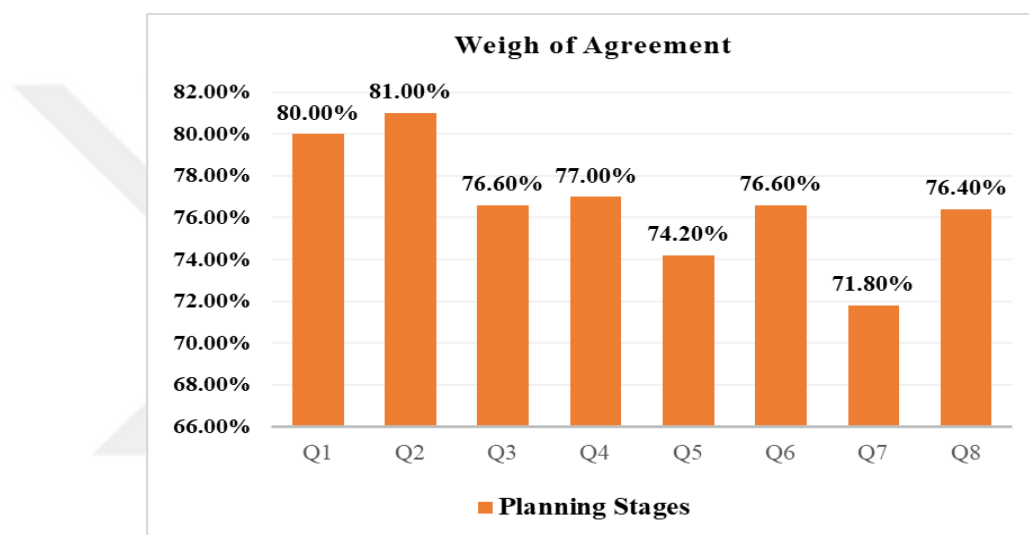


Figure 3.1: Responses and percentage of agreement on using IT in the planning stage of the audit process.

In summary, the examination of the weight of the agreement augments one's understanding of the planning phase within the audit process. It underscores the degree of participant agreement with the statements put forth in the survey and bolsters the significance of the results in contributing to a more comprehensive grasp of the intricacies involved in audit planning.

Second: The second stage of the audit process, which is the implementation of control tests and basic tests, consists of six questionnaires. In this section of the survey, perspectives are offered on the extent to which auditors evaluate the impact of using IT on the planning stage of the audit process. The frequencies, averages (mean), standard deviation values, and weight of agreement of the auditors' perceptions of the use of IT in the audit process to enhance the quality of independent audits are displayed in Table 3.12 below.

Table 3.12: Responses to use IT on implementation of control tests and basic tests of the stage audit process, improving quality of independent audit, frequencies, averages (means), standard deviation values, and weights of agreement.

Stage of Implementation of Control Tests and Basic Tests		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Disagree	Mean	Standard Deviation	Weight of Agreement
9	Information technology methods and tools are used to understand the internal control environment and its procedures.	2	8	11	35	10	3.65	0.984	73.00%
10	Information technology is used in the implementation of control tests (interim and final inspection).	3	7	6	36	14	3.77	1.049	75.40%
11	The use of IT aids in assessing the efficacy and quality of internal controls	1	8	11	30	16	3.79	1.000	75.80%
12	The use of IT verifies the accuracy and timeliness of financial transactions when performing tests.	1	4	7	34	20	4.03	0.894	80.60%
13	The auditor relies on information technology to verify the classification, carryover, and summary of financial operations and events.	1	6	5	36	18	3.97	0.928	79.40%
14	The use of computerized systems in the audit process enhances the quality of control processes for the programs and electronic files utilized in the audited facility.	2	6	3	42	13	3.88	0.937	77.60%
Valid N (List wise) 66		Mini=1 Strongly disagree Maxi=5 Strongly agree							

The average response to one of the survey's questions on whether participating auditors take or apply IT to execute basic and control testing for the audit process to be carried out in audit firms by auditors was 4.00 or higher. Others range from 3.00 to 4.00 for auditors who answered the survey compared to other statements. " 12. IT is employed to verify the timeliness and accuracy of financial transactions during testing. Nevertheless, the statement's participation rate is indicated as '13. The classification, carryover, and summarization of financial operations and events are all verified by IT for the auditor. "It has a close-to-4 average, which is also high. As opposed to that, " 9. IT methods and tools are used to understand the internal control environment and its procedures" and 10. They are used in the implementation of control tests (interim and final inspection).

According to the survey's responses, generally, auditors consider the use of IT to verify when conducting testing, ensure the timeliness and accuracy of financial transactions. Also, the auditor relies on IT to verify the classification, carryover, and summary of financial operations and events.

Additionally, in the realm of the research, a series of surveys were undertaken utilizing a Likert scale with 5 points. The aim was to comprehensively assess the perspectives of participants regarding the second stage of the audit process, specifically, the implementation of control tests and basic tests. By employing this approach, the weight of agreement was derived for each of the eight questions presented to the participants. The weight of agreement, expressed as percentages, furnishes people with a quantitative measure of the consensus achieved among respondents for each question. This metric encapsulates the proportion of participants who aligned with the statements at varying levels of agreement. The analysis revealed a spectrum of agreement, with figures ranging from 73.00% to 80.60%, signifying differing degrees of concurrence among participants.

For example, the weight of agreement of 73.00% for a particular question illustrates that a significant portion of participants, approximately three-quarters endorsed or strongly endorsed the given statement. Similarly, percentages such as 75.40%, 75.80%, 79.40%, and 80.60% manifest substantial accord among respondents for their respective questions. Furthermore, these figures find vivid representation in the bar charts, with the height of each bar correlating to the weight of agreement for its corresponding question. This graphical illustration serves to provide a visual snapshot of the consensus achieved across the eight questions in the survey.

The weight of agreement serves as a pivotal indicator, offering insight into the congruity of participant viewpoints on critical aspects of the audit process. Through the distribution of these high percentages across the questions, a robust pattern of alignment emerges, lending credence to the credibility and reliability of the findings. In sum, the examination of the weight of agreement enhances the comprehension of the audit process's second stage. It shows the degree to which participants concur with the notions presented in

the survey and bolsters the significance of the results in contributing to a more comprehensive understanding of audit procedures.

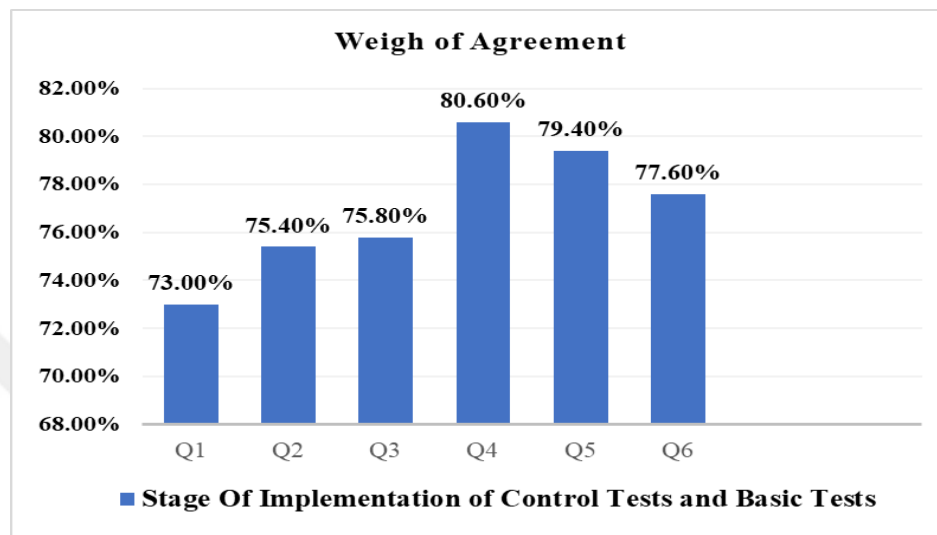


Figure 3.2: Responses, percentage of agreement Implementing control tests and foundational audit process tests using IT.

Third: The third stage of the audit process is the analytical procedure, which consists of eight questionnaires. In this section of the survey, perspectives on the extent to which auditors evaluate the impact of using IT on the audit process are presented. The frequencies, averages (mean), standard deviation values, and weight of agreement of the auditors' perceptions of the use of IT in the audit process to improve the quality of independent audits are displayed (Table 3.13) below.

Table 3.13: Responses to using information technology on the Analytical Procedures of the stage audit process, improving quality of independent audit Frequencies, averages (means), standard deviation values, and weights of agreement.

Analytical Procedures		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Disagree	Mean	Standard Deviation	Weight of Agreement
15	The use of information technology in audits allows the auditor to compare the enterprise's real financial ratios to similar historical financial ratios pulled from the company's records with greater accuracy	3	3	5	34	21	4.02	1.00	80.40%
16	The use of information technology in audits enables the auditor to compare the enterprise's real financial ratios to similar financial ratios more precisely anticipated.	2	3	3	37	21	4.09	0.907	81.80%
17	The use of information technology in audits aids in comparing actual departmental outcomes to anticipated results in order to uncover variations and determine causes.	2	3	4	35	22	4.09	0.924	81.80%
18	The use of information technology in audits allows the auditor to readily audit all of the company's accounts and financial statements for both the current and past years.	2	5	6	34	19	3.95	0.983	79.00%
19	The use of information technology in audits allows the auditor to easily access the yearly financial reports of companies competing in their field.	2	3	5	38	18	4.02	0.903	80.40%
20	The use of information technology in audits enables the auditor to become acquainted with the rules and regulations that govern the operations of the client's facility to be audited.	3	3	12	30	18	3.86	1.021	77.20%
21	The audited entity's activities rely on information technology to carry out analytical and financial procedures.	2	2	6	36	20	4.06	0.892	81.20%
22	The usage of information technology aids in correctly comparing an enterprise's real financial ratios to comparable financial measures.	2	2	5	39	19	4.05	0.867	81.00%
Valid N (List wise) 66		Mini=1 Strongly disagree Maxi=5 Strongly agree							

The average response to one of the survey's questions on whether participating auditors take or use IT into account of analytical procedures in the audit process to be carried

out in audit firms in their audit process is 4.00 and above. There are two between 3.50 and 4.00 that are so close to 4.00, as they stated that they participated the most in 16 and 17. IT assists in comparing the enterprise's actual financial ratios with more accurately estimated financial ratios during an audit. It also aids in identifying discrepancies and determining their causes by comparing the establishment's actual departmental performance with the projected results. However, using IT in audits also facilitates the auditor's familiarization with the rules and legislation impacting the operations of the client's facility under audit. More people agree with the statement than disagree with it, while other people neither agree nor disapprove. According to the survey's responses, generally, auditors consider audit firms at a rate close to undecided about using IT in their auditing process.

As well as, in the context of the research, a set of surveys were administered employing a 5-point Likert scale to gauge participant perspectives on the third stage of the audit process analytical procedures. Through this approach, it was sought to delve into participant viewpoints across eight key questions specific to this audit phase. The analysis culminated in the determination of the weight of agreement for each question, a numerical representation of the consensus among respondents. The weight of agreement, conveyed in percentages, serves as an essential, quantifiable measure of participant alignment with the statements proffered in the survey. The exploration unveiled a spectrum of agreement percentages, ranging from 77.20% to 81.80%, indicative of varying degrees of concurrence among participants. For instance, a weight of agreement of 81.80% for a given question underscores a notable consensus among participants—roughly four-fifths indicating agreement or strong agreement with the statement. Similarly, percentages like 80.40%, 81.00%, and 79.00% highlight substantial concurrence among participants for their respective questions.

The visual representation of these percentages through bar charts offers a succinct illustration, where the height of each bar corresponds to the weight of agreement associated with a specific question. These visual cues provide a quick snapshot of the collective alignment achieved across the analytical procedure-related questions within the survey.

The weight of agreement emerges as an indispensable metric, shedding light on the harmony of participant viewpoints within the analytical procedures stage of the audit process. By examining the distribution of these percentages across the questions, a coherent pattern of alignment comes to the fore, bolstering the credibility and reliability of the findings.

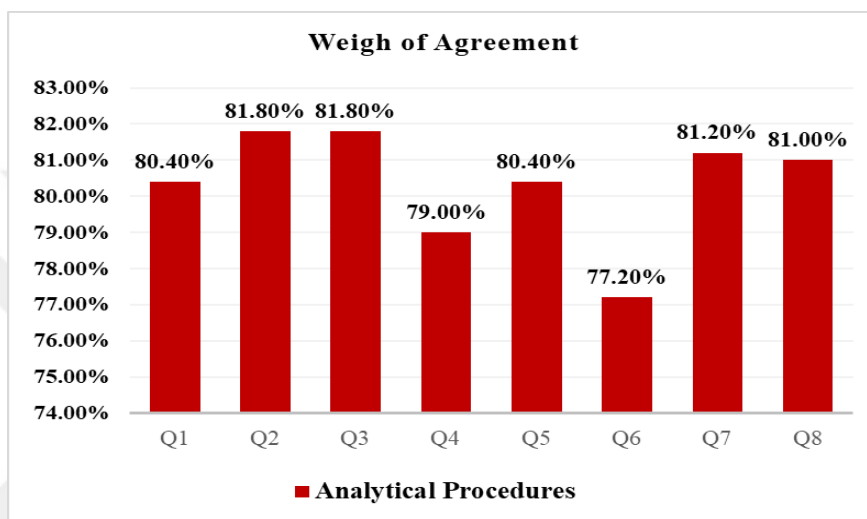


Figure 3.3: Responses and percentage of agreement on using IT in the analytical procedures of the audit process.

In summary, the investigation of the weight of the agreement enriches the understanding of the Analytical Procedures stage within the audit process. It underscores the extent of participant consensus with the statements presented in the survey and reinforces the significance of the results in contributing to a more nuanced comprehension of the intricacies inherent in analytical auditing.

Fourth: The fourth stage of the audit process is the documentation performance, which consists of eight questionnaires. In this section of the survey, perspectives on the extent to which auditors evaluate the impact of using IT on the audit process are presented. The frequencies, averages (mean), standard deviation values, and weight of agreement of the auditors' perceptions of the use of IT in the audit process to improve the quality of independent audits are displayed in Table 3.14 below.

Table 3.14: Responses of using IT on the documentation performance stage of the audit process: improving quality of independent audit Frequencies, averages (means), standard deviation values, and weights of agreement.

	Documentation Performance	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Disagree	Mean	Standard Deviation	Weight of Agreement
23	Using IT in audits helps the auditor better prepare worksheets, link letters, and endorsements.	1	4	11	35	15	3.89	0.879	77.80%
24	The use of IT in audits helps the auditor to better prepare streamlined flow maps.	11	6	8	35	16	3.89	0.930	77.80%
25	The use of IT allows the auditor to complete the audit program in a shorter period.	2	2	9	30	23	4.06	0.943	81.20%
26	The use of electronic technologies in the audit process helps in preparing observations, recommendations, and reports that will be submitted to the management.	2	6	9	27	22	3.92	1.057	78.40%
27	The use of computerized technologies in the audit process allows the auditor to summarize the audit results so that they may be discussed with the audit team or facility management.	2	1	13	35	15	3.91	0.872	78.20%
28	The use of information technology helps in reaching objective results by properly documenting the audit process.	2	2	12	36	14	3.88	0.886	77.60%
29	The use of IT in the audit process allows the auditor to gather more evidence related to the item to be audited (the audit's goal) than if the technology were not used.	2	7	18	25	14	3.64	1.032	72.80%
30	The application of IT in auditing enhances individuals' skills and qualifications to generate evidence that is both strong and of high quality.	3	19	9	29	15	3.65	1.130	73.00%
Valid N (List wise) 66		Mini=1 Strongly disagree Maxi=5 Strongly agree							

The average response to one of the survey's questions on whether participating auditors take or use IT to account for the documentation performance of audit processes to be carried out in audit firms by auditors was 4.00 and above. Furthermore, there are 4 between

3.88 and 4.00, which is close to 4.00. Others are between 3.50 and 4.00. Audit auditors in audit firms that answered the survey compared their statements to other statements. 25. The utilization of IT expedites the completion of the audit program for the auditor. In statement 26, the utilization of electronic technologies in the audit process facilitates the generation of observations, suggestions, and reports that are then sent to management. Statement 27 indicates that to communicate the audit findings with the audit team or facility management, the auditor can more easily summarize the results using computerized systems in the process. According to the statement, they strongly agreed.

According to the survey's responses, auditors believe that, in addition to assisting the auditor in completing the audit program more efficiently, information technology documentation of the audit process also making it easier to create reports, observations, and suggestions that will be given to management.

Furthermore, in the recent research endeavor, surveys were conducted employing a 5-point Likert scale to gain insights into participant perspectives concerning the documentation performance stage, a vital aspect of the audit process. This involved probing participant opinions across eight key questions specifically tailored to this phase. Through rigorous analysis, the weight of agreement was quantified for each question—a numerical representation of the collective consensus among participants. The weight of agreement, presented as percentages, offers a tangible gauge of participant alignment with the statements featured in the survey. The findings encompass a spectrum of agreement percentages, spanning from 72.80% to 81.20%, reflecting varying degrees of concurrence among participants.

For instance, a weight of agreement of 81.20% for a particular question signifies a robust consensus among participants, nearly four-fifths, who indicated agreement or strong agreement with the statement. Similarly, percentages like 77.80%, 78.40%, and 73.00% underscore notable concurrence among participants for their respective questions.

The visualization of these percentages using bar charts offers a visual representation, where the height of each bar corresponds to the weight of agreement for the given question. This graphical representation encapsulates the collective alignment achieved across the

questions centered on documentation performance within the survey. The weight of agreement emerges as an insightful metric, illuminating the extent of harmony in participant viewpoints during the documentation performance stage of the audit process. By observing the distribution of these percentages across the questions, a consistent pattern of alignment becomes evident, affirming the credibility and reliability of the findings.

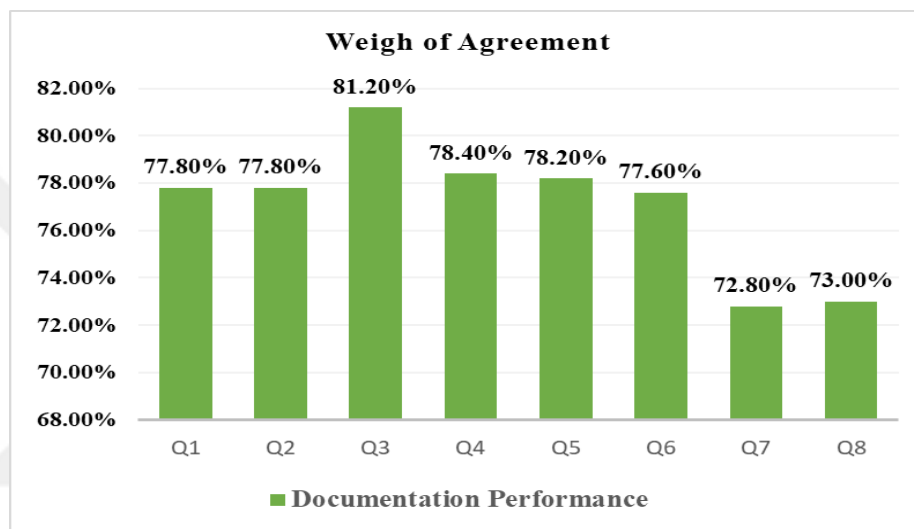


Figure 3.4: Responses and percentage of agreement on using IT in the documentation and performance of the audit process.

To summarize, the exploration of the weight of agreement enriches the understanding of the documentation performance stage within the audit process. It underscores the level of participant consensus with the presented statements, reinforcing the significance of the results in contributing to a deeper comprehension of the intricacies involved in documentation practices.

Fifth: The completion of the audit and the release of the auditor's report, which consists of eight questionnaires, Constituting the audit process's fifth stage. In this survey part, perspectives on the extent to which auditors evaluate the impact of using IT on the audit process are presented. The frequencies, averages (mean), standard deviation values, and weight of agreement of the auditors' perceptions of the use of IT in the audit process to improve the quality of independent audits are displayed in Table 3.15 below.

Table 3.15: Responses of using information technology to complete the audit process, including the stage where the auditor's report is issued: improving quality of independent audit Frequencies, averages (means), standard deviation values, and weights of agreement.

Stage of Completing the Audit Process and Issuing the Auditor's Report		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Disagree	Mean	Standard Deviation	Weight of Agreement
31	Information technology tools and methods are used to carry out tests for possible and contingent liabilities.	2	5	16	4	3	3.56	0.825	71.20%
32	Information technology tools and methods are used to determine the value of potential future liabilities.	3	5	21	30	7	3.50	0.949	70.00%
33	Information technology is used to assess continuity with the client, with the need to obtain a letter of representation and financial statements.	2	9	13	34	8	3.56	0.979	71.20%
34	Information technology is used to assess the adequacy of disclosure in the auditor's report.	4	10	16	28	8	3.39	1.080	67.80%
35	Information technology is used in the preparation and issuance of the auditor's report.	4	3	16	31	12	3.67	1.028	73.40%
36	The use of application software in the audit process reduces the costs of completing the audit process.	5	5	1	27	19	3.76	1.177	75.20%
37	Information technology is used to assess continuity with the client with the need to obtain the book of representation and financial declarations.	3	4	16	31	12	3.68	0.995	73.60%
38	Computerized systems are used to prepare and issue the auditor's report within the appropriate time frame.	3	2	13	36	12	3.79	0.937	75.80%
Valid N (List wise) 66		Mini=1 Strongly disagree.....Maxi=5 Strongly agree							

The average response to the survey's questions on whether participating auditors take or use IT to complete the audit process and issue the auditor's report of the audit process to be carried out in audit firms by auditors was between 3.50 and 4.00 and above. Among the statements related to completing the audit process and publishing the auditor's report, the most agreed-upon statements were, "38. Computerized systems are used to prepare and issue

the auditor's report within the appropriate time frame." And "36. using application software in the audit process reduces the costs of completing the audit process." 37. It is used to assess continuity with the client with the need to obtain the book of representation and financial declarations." 35. Information technology is used in the preparation and issuance of the auditor's report." According to the survey's responses, auditors consider audit firms at a rate close to undecided about using IT in their auditing process.

Furthermore, according to the weight of agreement in the research endeavor, surveys were administered utilizing a 5-point Likert scale to gauge participant viewpoints concerning the last stage of the audit process, which involves concluding the audit and publishing the auditor's report. The aim was to gain insights into participant opinions across eight key questions pertinent to this stage. Through meticulous analysis, the weight of agreement was calculated for each question, a quantitative measure reflecting the collective consensus among participants. The weight of agreement, expressed as percentages, serves as a valuable metric to gauge participant alignment with the statements posed in the survey.

The findings encompass a range of agreement percentages, spanning from 67.80% to 75.80%, indicative of varying levels of concurrence among participants. For instance, a weight of agreement of 75.80% for a specific question signifies a significant level of consensus among participants—approximately four-fifths—who indicated agreement or strong agreement with the statement. Similarly, percentages like 70.00%, 71.20%, 73.40%, 73.60%, and 75.20% underline substantial concurrence among participants for their respective questions.

The visual representation of these percentages via bar charts provides a concise graphical overview, where the height of each bar correlates to the weight of agreement for the corresponding question. This visual representation offers a glance into the collective alignment achieved across the questions specific to Completing the audit and publishing the auditor's report. The weight of the agreement serves as a pivotal marker, offering insights into the agreement from participant viewpoints within the last stage of the audit process. By analyzing the distribution of these percentages across the questions, a coherent pattern of alignment emerges, reinforcing the credibility and robustness of the findings.

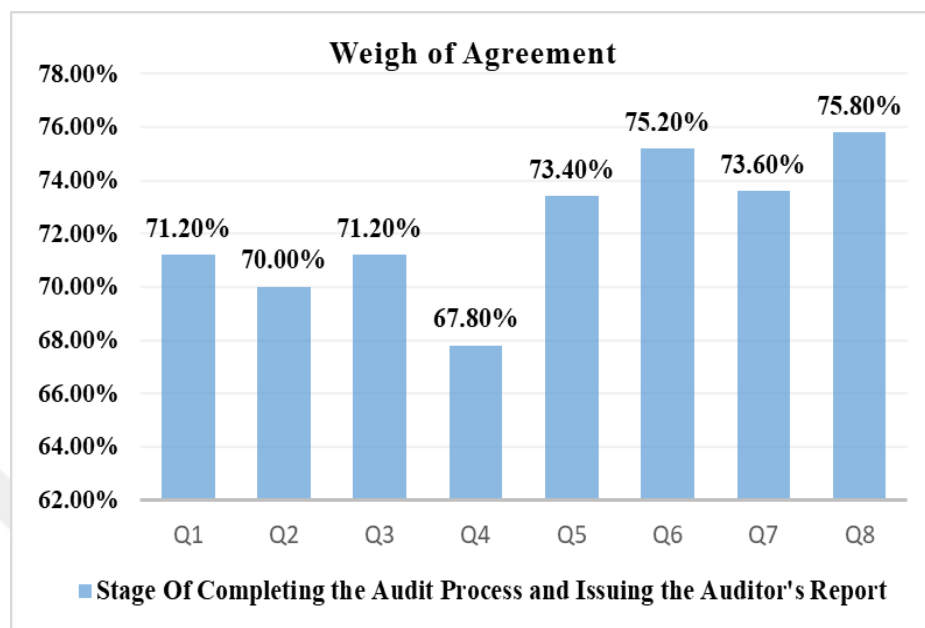


Figure 3.5: Responses and percentage of agreement on using the utilization of IT to complete the audit process and publish the audit report.

In summary, the examination of the weight of the agreement enriches understanding of the procedures involved in completing the audit and publishing the auditor's report. It underscores the extent of participant consensus with the presented statements and underscores the importance of the results in contributing to a deeper understanding of the intricacies inherent in this phase of auditing.

Sixth: The stages of the audit process are analyzed. This is done to determine whether the average answer score meets the average and whether IT was used during the audit process. the frequency distributions, means, and standard deviation. In Table 3.16 below, the auditors' weight of agreement regarding the usage of IT in the audit process to increase the quality of independent audits is shown.

Table 3.16: Study Constructs Result.

Stage of Audit Process	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree	Average (Mean)	Stander deviation	Weight of agreement
Planning Stage	2	5	9	38	13	3.84	0.696	76.70%
Implementation of Control Tests and Basic Tests	2	7	7	36	15	3.85	0.751	76.97%
Analytical Procedures	2	3	6	35	20	4.02	0.754	80.34%
Documentation Performance	3	6	11	32	17	3.86	0.769	77.12%
Completing the Audit Process and Issuing the Auditor's Report	3	5	14	28	10	3.61	0.804	72.27%
Overall	2	5	9	34	15	3.83	0.685	76.68%
Valid N Listwise 66	Mini = Strongly Disagree..... Maxi = Strongly Agree							

From (Table 3.16), it was found that the average (mean) of all audit process stages equal to 3.83, the weight of agreement relative average is 76.68%, This indicates that the sample members generally approve of the questionnaire's paragraphs based on the average answer score of 66 for all stages. The previous results indicate an urgent need for auditors and audit firms to utilize IT in the stages of the audit process. Furthermore, in the first stage was 76.70% the weight of agreement relative average, 76.97% the weight agreement relative average, second, 80.34% the weight of agreement relative average, third which are better to use information technology in those stage than other stages, after that, fourth, was 77.12% the weight of agreement relative average, and the last hypothesis, impacts less than other stages, was 72.27% the weight of agreement relative average.

3.6.4 Test of Normality

Variables were assessed using the Kolmogorov-Smirnov test to ascertain whether the data show a normal distribution or not; otherwise, in order to use parametric statistical techniques, the results are shown in Table 3.17.

Table 3.17: Test of normality

Kolmogorov-Smirnova^a			
	Statistics	Df	P-Value
Planning Stage	0.856	66	0.391*
Implementation of Control Tests and Basic Tests	0.902	66	0.389*.
Analytical Procedures	0.744	66	0.585*.
Documentation Performance	0.890	66	0.424*.
Completing The Audit Process and Issuing the Auditor's Report	0.772	66	0.602*.
Overall	0.843	66	0.624*.

**This is a lower bound of the true significance.*

A. Lilliefors significance correction

The data presented in Table 3.17 make it evident that the p-value (Sig) exceeds the significance level of 0.05 in every area of investigation, for which planning stages were 0.391, implementation of the control test and the basic test was 0.389, analytical procedures were also 0.424, documentation performance was 0.602, and the last one, completing the audit and publishing the report of the auditor, was 0.624. Thus, the distribution of data for these areas follows the normal distribution, where parametric tests were used to answer the hypotheses of the study.

3.6.5 Hypothesis analysis

3.6.5.1 Analysis of Differences Between Auditors' Perceptions Regarding the Effect of Information Technologies on Independent Auditing in Terms of Their Gender.

The First Research Hypothesis

Ho: There are no statistically significant differences in gender between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in gender between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

To determine which gender group believes that information technologies affect independent auditing more, one can compare the means. In this case, it can be noticed that the female group has a slightly higher average (3.94) compared to the male group (3.79). Based on the (Table 3.18), it appears that the female group believes that information technologies have a slightly stronger impact on independent auditing compared to the male group.

Table 3.18: Arithmetic average of the answers regarding the impact of IT on independent auditing according to the gender of the auditors.

Gender	N (66)	Mean (Average)
Male	47	3.79
Female	19	3.94

The resulting hypotheses were tested using a T. test. Examined were the differences between the auditors' average replies to the audit process Stages according to their genders. (Table 3.19), displaying the analysis's findings is shown below.

Table 3.19: Differences in Auditors' Answers by Gender.

	Sum of Squares	Df	Mean Square	F Value	P Value
Between Groups	0.329	1	0.329	0.698	0.407
Within Groups	30.181	64	0.472		
Total	30.510	65			

*Statistically significant at a 10% significance level

** Statistically significant at a 5% significance level.

*** Statistically significant at 1% significance level.

Based on the information provided, the p-value resulting from the T-test is 0.407, which is greater than the significance levels (0.01, 0.05, and 0.10). This suggests that there

is no significant difference between the genders of the auditors in terms of the average stage of the audit process. Therefore, the null hypothesis (H0) cannot be rejected, proving that there is no significant gender-based disparities in the information technology audit process at the previously mentioned phases.

3.6.5.2 Analysis of Differences Between Auditors' Perceptions Regarding the Effect of Information Technologies on Independent Auditing in Terms of Their Age

Second Research Hypothesis

Ho: There are no statistically significant differences in ages between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in age between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

Additionally, the means can be compared to discover which age group thinks information technologies have the biggest impact on independent auditing. The age group, which is expected to indicate those aged 35–45 or a comparable range, gets the highest mean score of 3.99 in the Table below, column 3.20. This shows that, in comparison to other age groups, this group feels information technologies have a greater impact on independent audits.

Table 3.20: Arithmetic average of the answers regarding the impact of IT on independent auditing according to the age of the auditors.

Age	N (66)	Mean (Average)
25 To Less Than 35	5	3.39
35 To Under 45	22	3.99
45 To Less Than 55	28	3.86
55 Years and Over	11	3.67

The resulting hypotheses were tested using a one-way analysis of variance. They examined the differences between the auditors' average replies to the audit process stages based on their age.

Table 3.21: Differences in Auditors' Answers by Age.

ANOVA					
	Sum of Squares	Df	Mean Square	F Value	P Value
Between Groups	1.827	3	0.609	1.317	0.277
Within Groups	28.683	62	0.463		
Total	30.51	65			

*Statistically significant at a 10% significance level

** Statistically significant at a 5% significance level.

*** Statistically significant at 1% significance level.

Based on the information provided in (Table 3.21), the p-value resulting from the one-way ANOVA is 0.277, which is greater than the significance levels (0.01, 0.05, and 0.10). This suggests that there is no significant difference between the ages of the auditors in terms of the average stage of the audit process. Therefore, the null hypothesis (H₀) cannot be rejected, proving that there are no significant age-based disparities in the information technology audit process at the previously mentioned phases.

3.6.5.3 Analysis of Differences Between Auditors' Perceptions Regarding the Effect of Information Technologies on Independent Auditing in Terms of Their Academic Qualification.

Third Research Hypothesis

Ho: There are no statistically significant differences in academic qualifications between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in academic qualifications between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

As shown in (Table .3.22), it appears that the academic qualification group "High diploma" has the highest mean score of 4.12. This suggests that participants with an "academic qualification level " believe that information technologies have a stronger impact on independent auditing compared to the other academic qualification groups.

Table 3.22: Arithmetic average of the answers regarding the impact of IT on independent auditing according to the academic qualification of the auditors.

Academic Qualification	N (66)	Mean (Average)
Master	29	3.74
PHD	8	3.38
High Diploma	22	4.12
And Other	7	3.83

The resulting hypotheses were tested using a one-way analysis of variance. The examinations were the differences between the auditors' average replies to the audit process stages according to their academic qualifications. (Table 3.23) displaying the analysis's findings are shown below.

Table 3.23: Differences in Auditors' Answers by Academic Qualification.

ANOVA					
	Sum of Squares	Df	Mean Square	F Value	P Value
Between Groups	3.89	3	1.297	3.02	0.036 **
Within Groups	26.32	62	0.429		
Total	30.51	65			

* Statistically significant at a 10% significance level.

** Statistically significant at a 5% significance level.

*** Statistically significant at 1% significance level.

Based on the provided information, a hypothesis-testing scenario is described in the context of an audit process and academic qualifications of auditors. The null hypothesis (H0) suggests that there are no significant differences in the various stages of the audit process using information technology, based on academic qualifications. The alternative hypothesis (H1) suggests that there are significant differences. The results mentioned include a p-value of 0.036 and an F-value of 0.302. Additionally, significant levels of 0.10, 0.05, and 0.01 are mentioned.

It appears that the p-value is less than the significance level of 0.05, which could indicate that one might reject the null hypothesis in favor of the alternative hypothesis. Further analysis and interpretation based on the nature of the data, experimental design, and statistical methodology would be necessary to draw meaningful conclusions.

Table 3.24: Scheffe was used to the difference between the groups in academic qualifications.

Academic Qualification		Mean Difference	Std.	P Value
I	J	(I-J)	Error	
Master	PHD	0.364	0.262	0.589
	High diploma	-0.392	0.185	0.225
	And other	-0.099	0.276	0.988
PHD	Master	-0.364	0.262	0.589
	High diploma	-0.756	0.271	0.060 *
	And other	-0.463	0.339	0.604
High diploma	Master	0.392	0.185	0.225
	PHD	0.756	0.271	0.060 *
	And other	0.293	0.284	0.786
And other	Master	0.099	0.276	0.988
	PHD	0.463	0.339	0.604
	High diploma	-0.293	0.284	0.786

* Statistically significant at a 10% significance level.

** Statistically significant at a 5% significance level.

*** Statistically significant at 1% significance level.

The results of the one-way analysis of variance/One Way Anova (Scheffe) test, which was carried out to ascertain which group was unique from the other/others, can be found in (Table 3.24).

After analyzing the groups, it was discovered that the majority of them exhibited no discernible differences from one another, except for one group—those with a PhD and High Diploma, as indicated below. The Scheffe test outcomes revealed a statistically significant distinction between auditors holding a Ph.D. and those with a High Diploma (p value=0.060). This implies that the viewpoints expressed by participant auditors varied notably. On average, the difference between individuals with a Ph.D. and those with a High Diploma was calculated to be 0.756, and there was a statistically significant difference between them at the 0.10 significance level.

3.6.5.4 Analysis of Differences Between Auditors' Perceptions Regarding the Effect of Information Technologies on Independent Auditing in Terms of Their number of years of experience in auditing.

Fourth Research Hypothesis

Ho: There are no statistically significant differences in several years of experience in auditing the auditors, between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in many years of experience in auditing the auditors, between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

Likely in (Table 3.25), it's evident that the experience level "less than 5 years" has the highest mean score of 4.45. This suggests that participants with the least experience in auditing (experience level 1.00) believe that information technologies have a stronger impact on independent auditing compared to the other experience levels.

Table 3.25: Arithmetic average of the answers regarding the impact of IT on independent auditing according to the number of years of experience in auditing of the auditors.

Experience in Auditing	N (66)	Mean (Average)
Less Than 5 Years	1	4.45
5 To Less Than 10 Years	15	3.77
10 To Less Than 15 Years	14	3.91
15 To Less Than 20 Years	10	3.62
20 Years and Over	26	3.88

The resulting hypotheses were tested using a one-way analysis of variance. The examinations were the differences between the auditors' average replies to audit process stages. The results of the analysis are displayed below, arranged by the number of years of auditing experience (Table 3.26).

Table 3.26: Differences in Auditors' Answers by number of years of experience in auditing of the auditors

ANOVA					
	Sum of Squares	Df	Mean Square	F Value	P Value
Between Groups	1.093	4	0.273	0.566	0.688
Within Groups	29.417	61	0.482		
Total	30.51	65			

Based on the provided information, it seems that a hypothesis-testing scenario is described in the context of an audit process and the academic qualifications of auditors. The null hypothesis (H₀) suggests that there are no significant differences in the various stages of the audit process based on the number of years of experience in auditing. The alternative hypothesis (H₁) suggests that there are significant differences. The results mentioned include a p-value of 0.688 and an F-value of 0.566. Additionally, significant levels of 0.10, 0.05, and 0.01 are mentioned.

3.6.5.5 Analysis of Differences Between Auditors' Perceptions Regarding the Effect of Information Technologies on Independent Auditing in Terms of Their Professional Certification.

Fifth Research Hypothesis

Ho: There are no statistically significant differences in professional certification, between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in professional certification, between auditors' perceptions that the use of information technology substantially impacts the quality of the independent audit process stages.

As shown in the (Table3.27), it appears that the professional certification group "other professional certification" has the highest mean score of 3.87. This suggests that participants with professional certification levels other professional certification believe that information

technologies have a slightly stronger impact on independent auditing compared to the other certification levels.

Table 3.27: Arithmetic average of the answers regarding the impact of IT on independent auditing according to the professional certification of the auditors.

Professional Certification	N (66)	Mean (Average)
American Chartered Accountant (CPA)	6	3.60
Arab Chartered Accountant (ACPA)	51	3.85
Other	9	3.87

The resulting hypotheses were tested using a one-way analysis of variance. The examinations were the differences between the auditors' average replies to the audit process stages according to their Professional Certificates. (Table 3.28) displaying the analysis's findings is shown below.

Table 3.28. Differences in Auditors' Answers by Professional Certification.

ANOVA					
	Sum of Squares	Df	Mean Square	F Value	P Value
Between Groups	0.30	2	0.15	0.313	0.732
Within Groups	30.21	63	0.48		
Total	30.51	65			

* Statistically significant at a 10% significance level.

** Statistically significant at a 5% significance level.

*** Statistically significant at 1% significance level.

Based on the provided information, a hypothesis-testing scenario is described in the context of an audit process and professional certificates of auditors. The null hypothesis (H0) suggests that there are no significant differences in the various stages of the audit process using information technology, based on professional certificates. The alternative hypothesis (H1) suggests that there are significant differences. The results mentioned include a p-value of 0.732 and an F-value of 0.313. Additionally, significant levels of 0.10, 0.05, and 0.01 are mentioned.

3.6.5.6 Analysis of Differences Between Auditors' Perceptions Regarding the Effect of Information Technologies on Independent Auditing in Terms of Their Career Center.

Sixth Research Hypothesis

H0: There are no statistically significant differences in the career center, between auditors' perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

H1: There are statistically significant differences in career centers between auditors. perceptions that the use of IT substantially impacts the quality of the independent audit process stages.

As exhibited in (Table 3.29), it appears that the career center group "Senior auditor" has the highest mean score of 4.10. This suggests that participants associated with career center-level Senior auditors believe that information technologies have a stronger impact on independent auditing compared to the other career center levels.

Table 3.29: Arithmetic average of the answers regarding the impact of IT on independent auditing according to the career center of the auditors.

Career Center	N (66)	Mean (Average)
Head of Audit Team	24	3.73
Senior Auditor	8	4.10
Auditor	30	3.88
Assistant	1	3.05
And Other	3	3.77

The resulting hypotheses were tested using a one-way analysis of variance. The examinations were the differences between the auditors' average replies to the audit process stages according to their career centers. (Table 3.30), displaying the analysis's findings is shown below.

Table 3.30: Differences in Auditors' Answers by Career Center.

ANOVA					
	Sum of Squares	Df	Mean Square	F Value	P Value
Between Groups	1.555	4	0.389	0.819	0.518
Within Groups	28.955	61	0.475		
Total	30.51	65			

*Statistically significant at a 10% significance level.

** Statistically significant at a 5% significance level.

*** Statistically significant at 1% significance level.

Based on the provided information, a hypothesis-testing scenario is described in the context of the audit process and the career center of auditors. The null hypothesis (H0) suggests that there are no significant differences in the various stages of the audit process using information technology, based on the career center. The alternative hypothesis (H1) suggests that there are significant differences. The results mentioned include a p-value of 0.518 and an F-value of 0.812. Additionally, significant levels of 0.10, 0.05, and 0.01 are mentioned.

3.6.5.7 Analysis of Differences Between Auditors' Perceptions Regarding the Effect of Information Technologies on Independent Auditing in Terms of Their Audit Process Stages.

Seventh Research Hypothesis

Ho: There are no statistically significant differences between the independent audit process stages of the impact of information technology use.

H1: There are statistically significant differences between the independent audit process stages of the impact of information technology use.

As indicated in Table 3.31, it appears that hypothesis analytical procedures have the highest mean score of 4.02. it because analytical procedures are crucial in auditing for detecting misstatements, ensuring efficiency, and ensuring audit quality. To identify deviations and determine the reasons behind them, they also assist in comparing the actual performance of departments with the anticipated performance. Additionally, they enable the auditor to compare the financial ratios of the company with previously calculated ratios

derived from the company's books. As well as other hypotheses with practically identical scores, the second and fourth (both 3.85), and the last one (the last hypothesis), which receive a score of 3.61. This suggests that participants in hypothesis analytical procedures believe that information technologies have a stronger impact on independent auditing compared to the other hypothesis groups.

Table 3.31: Arithmetic average of the answers regarding the impact of IT on independent auditing according to the audit process stages of the auditors.

Stages of Audit Process	N	Mean (Average)
Planning Stage	66	3.83
Implementation Of Control Tests and Basic Tests	66	3.85
Analytical Procedures	66	4.02
Documentation Performance	66	3.85
Completing The Audit Process and Issuing the Auditor's Report	66	3.61

The resulting stages of the audit process were tested using a one-way analysis of variance in (Table 3.32). The examined were the differences between the auditors' average replies to stages of the audit process.

Table 3.32: Differences in Auditors' Answers by audit process stages.

ANOVA					
	Sum of Squares	Df	Mean Square	F Value	P Value
Between Groups	0.662	4	0.166	9.766	0.000 ***
Within Groups	0.559	33	0.017		
Total	1.222	37			

*Statistically significant at a 10% significance level.

** Statistically significant at a 5% significance level.

*** Statistically significant at 1% significance level.

The overall averages of the auditors' reply to these hypotheses revealed a statistically significant difference at the level of 0.01 significance. H_0 was rejected ($p=0.000$). (Table 3.33) shows the results of the One-Way Anova (Scheffe) test, which was used to determine which group differed from the other/others.

Table 3.33: Analyzing hypotheses, differences between the independent audit process stages of the impact of information technology use

Scheffe Test

Hypothesis		Mean Difference (I-J)	Std. Error	P Value
(I)	(J)			
PL	IC & BT	-0.01333	0.070	1.000
	AP	-0.1825	0.065	0.123
	DP	-0.02	0.065	0.999
	CAP & IAR	.22125*	0.065	0.037 **
IC & BT	PL	0.01333	0.070	1.000
	AP	-0.16917	0.070	0.241
	DP	-0.00667	0.070	1.000
	CAP & IAR	.23458*	0.070	0.043 **
AP	PL	0.1825	0.065	0.123
	IC & BT	0.16917	0.070	0.241
	DP	0.1625	0.065	0.209
	CAP & IAR	.40375*	0.065	0.000 ***
DP	PL	0.02	0.065	0.999
	IC & BT	0.00667	0.070	1.000
	AP	-0.1625	0.065	0.209
	CAP & IAR	.24125*	0.065	0.019 **
CAP & IAR	PL	-.22125*	0.065	0.037 **
	IC & BT	-.23458*	0.070	0.043 **
	AP	-.40375*	0.065	0.000 ***
	DP	-.24125*	0.065	0.019 **

* Statistically significant at a 10% significance level.

** Statistically significant at a 5% significance level.

*** Statistically significant at 1% significance level.

The results obtained because of the Scheffe test are as follows: it was determined that there was a statistically significant difference between planning and completing the process of auditing and publishing the auditor's report, which varies depending on the audit process stages. ($p=0.037$). The significance level is set at 0.05. In light of the findings, the auditors who answered the survey stated that using IT in completing audit process and issuing the auditor's report is less facilitate than other stages. The mean difference between planning and completing the audit process and preparing the auditor's report factors is 0.22125, and the

significance level is less than 0.05.

There was a statistically significant difference between the Implementation of control tests and basic tests and the Completing the process of auditing and publishing the auditor's report., stages of the audit process ($p=0.043$). According to the results, the auditors who responded to the survey claimed that using IT to complete the audit process and issue the auditor's report had less of an influence on the audit process, the mean difference between the implementation of control tests and basic tests and the completing the audit process and issuing the auditor's report factors is 0.23458, and the significance level is less than 0.05.

The analytical procedures of the audit process stage and the completion of the audit process, including the release of the auditor's report, showed a statistically significant difference ($p = 0.000$). The results show that the auditors who responded to the survey claimed that using IT to complete the audit process and issue the auditor's report had less of an influence on the audit process. The mean difference between analytical procedures completing the audit process and issuing the auditor's report factors is 0.40375, and the significance level is less than 0.01.

A statistically significant difference was found in documentation performance. The phase of completing the audit process and issuing the report by the auditor showed a statistically significant difference ($p = 0.019$). The level of significance is below 0.05. In light of the results, the auditors who answered the survey stated that using IT to complete the process of auditing and publishing the auditor's report is less advantageous than the preceding stages. The mean difference between the planning stage and stage of completing the audit process and publishing the auditor's report factors is 0.24125, and the significance level is less than 0.05.

RESULT AND RECOMMENDATION

The main objective of this research was to determine how the use of IT affects the quality of independent audits. During the field research on the audit companies operating in the north of Iraq, which are Duhok, Erbil, and Sulaymaniyah, the quantitative approach was selected to accomplish the study's objectives because it is frequently employed in studies to analyse numerical data. The questionnaire form was also used as the primary method for obtaining empirical data from audit firms. The sample includes 72 auditors, namely the head of audit team, senior auditor, auditor, and assistant. The data were analysed using SPSS, as this statistical programmer was suitable for exploring the study model. By applying path analysis of modelling, the study conceptual model was tested and established reliability and validity, as well as the significance of all indicators of all study variables. Therefore, the scores showed the study model's reliability and validity, which means a high Pearson correlation between all constructs. The empirical analysis results supported all study hypotheses.

The overwhelming trend of rejecting null hypotheses in favor of alternative hypotheses underscores the transformative role of technology in shaping auditing processes. Across gender, age, academic qualifications, experience in auditing, professional certification, career center, and the difference between the independent audit process stages, the utilization of information technology emerged as a significant contributor to enhanced audit quality. Notably, auditors with diverse backgrounds exhibited distinct levels of response to technology integration, which highlights the importance of tailoring training and support strategies to cater to individual needs through analyzing the questionnaire answers and testing hypotheses. The results reached can be summarized as follows:

It is shown that the impact of IT on independent auditing and analyzed the responses of male and female auditors to gauge potential gender-based differences, and age groups. The study solicited responses from auditors categorized into distinct gender and age accomplices. To assess the significance of these gender differences, a T-test was conducted, acquiescent a p-value of 0.407. Therefore, the findings suggest that gender does not appear to play a significant role. A one-way analysis of variance (ANOVA) was conducted over the

ages. The resultant p-value, calculated at 0.277, in influencing the varying perspectives on the impact of information technology on independent auditing. Therefore, the findings suggest that gender and age do not play a significant role in influencing the varying perspectives on the impact of information technology on independent auditing. In the third result of the test field, the analysis showed that auditors with high diplomas had a higher average response compared to auditors with master's degrees and Ph.D. Meanwhile, those falling into the 'other' category also displayed a notable response average. The northern part of Iraq exhibits a higher concentration of individuals holding high diplomas. This trend is notably prominent among auditors employed in audit firms. The distinctive feature contributing to this phenomenon is the widespread adoption of the Arab Chartered Accountant (ACPA) professional certification among auditors in the north of Iraq. As the ACPA certification signifies a higher level of competence and expertise in accounting and auditing, it is sought after by professionals aspiring to excel in their careers within the auditing sector.

Furthermore, a one-way ANOVA test was conducted to investigate the differences in auditors' responses to the impact of information technology based on their academic qualifications. The results revealed a statistically significant difference (0.036), indicating that academic qualification has an impact on how auditors perceive the influence of information technology on independent auditing. These findings suggest that the level of academic qualification influence auditors' perceptions of the impact of IT on independent auditing, with high diploma holders showing the highest average response.

The findings of the other hypothesis test indicate that the number of years of experience, professional certification, and career center. A one-way ANOVA test was organized to examine whether years of experience, professional certification, and career center in auditing influence auditors' responses to the impact of IT on independent auditing. The analysis acquired a non-significant result with a P value of 0.688, 0.732, and 0.518, indicating that there are no statistically substantial distinctions in auditors' responses based on their years of experience, professional certification, and career center. Regardless of whether they hold CPA, ACPA, or other certifications, auditors displayed remarkably similar average responses.

The stages of the audit process represent the final hypothesis of the research. the first stage of results, which is the planning stage, where the relative weight of agreement (76.63%) The significance of using information technology in planning is underscored as it enables a more credible and high-quality evaluation of audit work results, thereby enhancing the quality of the audit process. Moreover, it facilitates the selection of sample items and the precise computation of sample size.

In addition, the second result of the stage demonstrated that audit firms utilize information technology in the execution of fundamental operational tests and control tests, considering the achieved proportional weight of agreement (76.97%). This suggests that a robust understanding of the internal control environment and procedures is facilitated by the use of information technology. Additionally, testing and evaluating control risk involve confirming the timeliness and accuracy of financial activities. Furthermore, the results of the third stage, analytical procedures, are evidenced by the high level of approval and the proportional weight of agreement (80.34%). This is evident through this IT plays a significant role in the application of analytical audit methods and thorough checks of balances by helping to assess the customer's ability to continue and compare the actual results of the facility with how the reports and listings of rival companies will be viewed, as well as any intended identification of substantial deviations.

The quality of audit performance and documentation is enhanced by the use of IT, as evidenced by the relative weight of agreement (77.12%), due to the distinguished role played by information technology at this stage through the auditor's obtaining evidence more related to the item to be audited, as well as auditing the balances of various accounts more accurately and faster.

Furthermore, analyzing hypotheses and differences between the independent audit process stages of the impact of IT, the planning, the completion, and the report issued by the auditor. emphasizes the distinct impact of information technology at these pivotal stages. Additional disparities were evident between the Implementation of Control Tests and Basic Tests stages, and the phases of the audit process that highlight the various ways in which information technology has an impact at each stage are completion and the issuance of the auditor's report. The most substantial disparity was identified between analytical procedures

and the audit process, which is completed, and the auditor's report is issued, emphasizing the critical role that information technology plays in this particular stage. Finally, a significant contrast was noted between documentation performance and After completing the audit and publishing the auditor's report, reinforcing the pivotal role of IT in documentation, and finalizing the audit process, The results are comparable to those of Ertaş & Güven (2008), Elefterie & Badea (2016), Hashem & Sujud (2020), Albania, Isa et al. (2020), Marei & Iskandar (2019), Salih (2019), Mustapha & Lai (2017), Oginga, (2013), Alsharairi & Alhosban (2019), and Almaleeh (2021). There was no study with differing outcomes among the same studies that were reviewed.

In addition, the study provides unique insights into the effective implementation of IT for auditors in audit firms in north of Iraq. In this context, the study recommends that audit firms in northern Iraq fully implement an IT system. Since the results indicate that IT is currently one of the most critical defenses, it becomes extremely important for north of Iraqi audit firms to adopt the latest updates in global information technology frameworks and disseminate them among experts through training courses. In this regard, the study suggests that audit firms in northern Iraq embrace the updated Information Technology framework, aiming to establish clear guidelines for auditors in the creation and evaluation of audit process stages.

Based on the study results, the researcher recommends emphasizing the importance of IT in the auditing profession through conferences, lectures, seminars, and training courses. It is also advised to keep abreast of developments, especially in auditing and internal control systems, and to enhance the efficiency of those in charge by incorporating IT into the audit process as a fundamental requirement for quality control. Furthermore, audit firms in the northern of Iraq are encouraged to train their personnel on electronic audit programs, particularly when auditing clients using computerized accounting systems. Appointing auditors with competence in IT is crucial for increasing the efficiency and effectiveness of the audit process.

The study recommends that researchers undertake additional investigations concerning the integration of information technology into the independent audit process, with a specific focus on electronic technologies and computerized application programs.

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APPENDICES



T.C.

TOKAT GAZIOSMANPAŞA UNIVERSITY
INSTITUTE OF GRADUATE STUDIES

Dear Respondent

The goal of this survey, conducted by me, Ramadhan Mohammed SALEEM, a master's student, is to gather empirical data and information for a study on "**The Impact of Using Information Technologies on the Quality of Independent Auditing**". I would be pleased if you took the survey and answered the questions that were based on the information you provided, as this would help us to conclude the study at a level where it would be meaningful. Please mark (✓) where necessary to indicate your understanding of the following statements. All replies will be kept private and used exclusively for research purposes; participants' identities will not be revealed.

Thanks in advance for your time.

Researcher
Ramadhan Mohammed SALEEM

Initial: General Information

Information on the audit firms that were polled is provided in this section of the survey, along with a basic description of the survey sample population

Please Tick (✓) The Answer Box as You See It:

Gender: Male ☐ Female ☐	
Age: less than 25 years ☐ 25 to less than 35 ☐ 35 to under 45 ☐ 45 to less than 55 ☐ 55 years and over ☐	
Academic qualification: Bachelor ☐ Master ☐ PHD ☐ Intermediate diploma ☐ high diploma ☐ and other ☐	
Number of years of experience in auditing: Less Than 5 Years ☐ 5 To Less Than 10 Years ☐ 10 To Less Than 15 Years ☐ 15 To Less Than 20 Year ☐ 20 Years and Over ☐	
Professional Certification: American Chartered Accountant (CPA) ☐ Arab Chartered Accountant(ACPA) ☐ English Chartered Accountant (ACCA) ☐ And Other ☐	
Career center Prime audit team ☐ Senior Auditor ☐ Auditor ☐ Auditor Assist ☐ And other ☐	

Second: Survey Questions

This section of the survey comprises fifth sections. section **1**: planning stage, section **2**: stage of implementation of control tests and basic tests, section **3**: analytical procedures, section **4**: documentation performance, and section **5**: stage of completing the audit process and issuing the auditor's report).

Please read the statement in each section and, using the scale below, mark your response:

(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, and Strongly Agree)

Section 1

Planning Stages		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1	The use of IT in audits helps in calculating the size of the audit sample more accurately.					
2	The use of IT in audits helps to better balance the time needed to carry out audit processes and stages.					
3	The use of IT in audits helps to better prepare the necessary audit schedule.					
4	The use of IT in audits helps in better-distributing tasks to audit team staff.					
5	Information technology is used to assess the relationship with customers in previous periods to determine the extent to which it is possible to continue with them or stop performing service to them.					
6	Information technology is used in the preparation of a timeline Suitable for the audit process and the interim and final audit plan which contributes to quality improvement.					

7	The use of IT contributes to understanding the nature of the work of the organization and the environment that surrounds it.					
8	The use of information technologies in the audit process assists in creating a budget for the time necessary to carry out audit procedures and stages in a quality way.					

Section 2

Stage of Implementation of Control Tests and Basic Tests		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
9	Information technology methods and tools are used to understand the internal control environment and its procedures.					
10	Information technology is used in the implementation of control tests (interim and final inspection).					
11	The use of IT aids in assessing the efficacy and quality of internal controls					
12	The use of IT verifies the accuracy and timeliness of financial transactions when performing tests.					
13	The auditor relies on information technology to verify the classification, carryover, and summary of financial operations and events.					
14	The use of computerized systems in the audit process enhances the quality of control processes for the programs and electronic files utilized in the audited facility.					

Section 3

Analytical Procedures		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
15	The use of information technology in audits allows the auditor to compare the enterprise's real financial ratios to similar historical financial ratios pulled from the company's records with greater accuracy					
16	The use of information technology in audits enables the auditor to compare the enterprise's real financial ratios to similar financial ratios more precisely anticipated.					
17	The use of information technology in audits aids in comparing actual departmental outcomes to anticipated results in order to uncover variations and determine causes.					
18	The use of information technology in audits allows the auditor to readily audit all of the company's accounts and financial statements for both the current and past years.					
19	The use of information technology in audits allows the auditor to easily access the yearly financial reports of companies competing in their field.					
20	The use of information technology in audits enables the auditor to become acquainted with the rules and regulations that govern the operations of the client's facility to be audited.					
21	The audited entity's activities rely on information technology to carry out analytical and financial procedures.					
22	The usage of information technology aids in correctly comparing an enterprise's real financial ratios to comparable financial measures.					

Section 4

Documentation Performance		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
23	Using IT in audits helps the auditor better prepare worksheets, link letters, and endorsements.					
24	The use of IT in audits helps the auditor to better prepare streamlined flow maps.					
25	The use of IT allows the auditor to complete the audit program in a shorter period.					
26	The use of electronic technologies in the audit process helps in preparing observations, recommendations, and reports that will be submitted to the management.					
27	The use of computerized technologies in the audit process allows the auditor to summarize the audit results so that they may be discussed with the audit team or facility management.					
28	The use of information technology helps in reaching objective results by properly documenting the audit process.					
29	The use of IT in the audit process allows the auditor to gather more evidence related to the item to be audited (the audit's goal) than if the technology were not used.					
30	The application of IT in auditing enhances individuals' skills and qualifications to generate evidence that is both strong and of high quality.					

Section 5

Stage of Completing the Audit Process and Issuing the Auditor's Report		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
31	Information technology tools and methods are used to carry out tests for possible and contingent liabilities.					
32	Information technology tools and methods are used to determine the value of potential future liabilities.					
33	Information technology is used to assess continuity with the client, with the need to obtain a letter of representation and financial statements.					
34	Information technology is used to assess the adequacy of disclosure in the auditor's report.					
35	Information technology is used in the preparation and issuance of the auditor's report.					
36	The use of application software in the audit process reduces the costs of completing the audit process.					
37	Information technology is used to assess continuity with the client with the need to obtain the book of representation and financial declarations.					
38	Computerized systems are used to prepare and issue the auditor's report within the appropriate time frame.					