

The Impact of IT Governance Dimensions on Enhancing The Quality of Accounting Information in Economic Units

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Abstract

This study examines the influence of information technology (IT) governance on the quality of fundamental accounting information within economic units. It focuses on two primary qualitative characteristics, relevance and faithful representations, as essential attributes of decision-useful financial information. The research adopts a descriptive and analytical methodology, employing a structured questionnaire distributed randomly to a sample of 110 academics and auditors in Erbil, Kurdistan Region of Iraq. A total of 92 valid responses were analyzed using SPSS, incorporating descriptive statistics and multiple regression techniques. The findings reveal that all five dimensions of IT governance (planning and organization, ownership and execution, delivery and support, monitoring and evaluation, and guidance and control) exert a statistically significant positive impact on the quality of accounting information. Among these, guidance and control demonstrated the strongest influence. The results underscore the critical role of comprehensive IT governance frameworks in improving data reliability, transparency, and financial reporting quality. The study recommends that economic units strengthen their IT governance practices in alignment with internationally recognized standards to enhance the integrity and usefulness of accounting information for internal and external decision-makers.

Keywords: IT Governance; Quality of Accounting Information; Relevance; Faithful Representation.

1. Introduction

The world today lives in an advanced and highly dynamic digital era, where information technology governance is one of the topics most widely debated that have attracted the greatest levels of interest from economic units nowadays because of its importance in setting and profiting from future policies, mainly those information technology-based and to a large extent in carrying out their activities and operations, since information technology governance has turned into the core basis for economic units, and here the concept of information technology governance has emerged with what the times require,

To be the main pillar for guaranteeing information security, reducing potential risks, and affecting the quality of basic accounting information. IT governance is the framework of processes and policies that manage technology and information usage and processing within an economic entity. For the sake of ensuring achievement of the objectives of the economic entity through efficient and sustainable use of technology. That is why IT governance was created, which is "the system that is executed through guidance and control over the present and future utilization of information technology to benefit the economic unit and attain plans, including strategies and policies for information technology use within the economic unit" (Hashem, 2019).

So far as the quality of fundamental accounting information is concerned, the value of accounting information matters so much to its users that academicians in accounting thought have been worried about the quality of fundamental accounting information because of the extensive influence of financial statement users' decisions by investors, creditors, financial analysts, customers, and suppliers. During the past few years, most researchers viewed the issue of basic accounting information quality as a vital issue, and many studies were developed that were obsessed with accounting variable measurement and analysis concerning basic accounting information quality since some firms collapsed globally and financial crises occurred.

The study focused on the quality of fundamental accounting information only, represented in Relevance and Faithful Representation, While the study did not cover the extended characteristics of the improving qualities of accounting information, i.e., (Comparability, Verifiability, Timeliness, and Understandability), to narrow the scope of the study and attain an improved methodology focus within the interpretation of fundamental relations.

2. Study methodology

2.1. Study problem

Economic units in the digital age are witnessing an increasing shift towards the use of advanced information systems that rely heavily on information technology. However, many of these units still face challenges related to the poor quality of basic accounting information produced by these systems, both in terms of their suitability for decision-making and their sincerity in expressing economic reality. This shortcoming is often due to the absence of effective IT governance practices or to their incomplete application, which weakens the efficiency of information systems and their ability to provide accurate and reliable data.

In this context, a fundamental question arises about the extent to which IT governance dimensions such as planning and organization, ownership and execution, Delivery and Support, monitoring and evaluation, and guidance and control can contribute to improving the quality of fundamental accounting information within economic units. Identifying this relationship is a necessity to understand how governance practices can contribute to enhancing the qualitative characteristics of accounting information, thereby supporting the decisions of both management and external users.

This raises the following main questions:

"To what extent do the dimensions of IT governance (planning and organization, ownership and execution, Delivery and Support, monitoring and evaluation, and guidance and control) contribute to improving the quality of fundamental accounting information in economic units?"

2.2. Importance of the study

With the development of information technology and the transition to the digital age, accounting information has become a vital asset for any economic unit, as it plays an essential role in making strategic and financial decisions. The quality of this information depends heavily on how accounting information systems are managed and directed within an economic unit. Information technology provides the means to generate, aggregate, and store accounting data effectively, but to ensure the accuracy and reliability of this information, strong governance is required.

IT governance is a state of the existence of an infrastructure of practices, procedures, and policies underlying the way IT is controlled and administered in an economic entity. Governance assists in stipulating rules and regulations that make the use of information technology to be carried out effective and well in line with the interests of the economic entity. Governance is also aimed at protecting accounting information from all risks and enhancing transparency and dependability in financial reports.

This study gains its worth by looking at the role of IT governance in improving the quality of primary accounting information, considering the decline in the quality of this information suffered by most economic players due to transparency deficits and deficits in managing information systems. Therefore, this study aims to shed light on the role of IT governance in improving the accuracy and reliability of accounting information, thus improving good and reliable financial decision-making.

2.3. Objectives of the study

This study aims to achieve a set of objectives that are closely aligned with the identified research problem and stem from the critical need to enhance the quality of basic accounting information. These objectives are centered on examining the role of effective information technology governance in supporting this enhancement. Accordingly, the objectives of the study are outlined as follows:

- 1) Clarifying the concept of IT governance and its dimensions: The study seeks to define information technology governance and examine its various dimensions, including the policies and procedures that govern the use of information technology within economic units. Emphasis is placed on its role in enhancing the effectiveness and efficiency of accounting systems.
- 2) Defining the concept of the quality of accounting information: The study seeks to provide a precise definition of the quality of basic financial information, to elucidate the fundamental characteristics it must embody, and to analyze how these characteristics influence financial decision-making within economic units.
- 3) Analyze the impact of IT governance on improving the quality of fundamental accounting information: This objective focuses on examining the impact of implementing information technology governance on enhancing the quality of basic accounting information within economic units. Particular attention is given to the various dimensions of governance—such as planning and organization, ownership and execution, delivery and support, monitoring and evaluation, and guidance and control—and their influence on the accuracy and reliability of accounting data.

By pursuing these objectives, the study aims to propose practical, scientifically grounded solutions to address existing deficiencies in the quality of basic accounting information. This, in turn, is expected to strengthen transparency and reliability in financial reporting and support strategic financial decision-making based on accurate and dependable information.

2.4. Hypothesis of the study

Based on the problem posed in the study, which is related to the impact of IT governance on improving the quality of basic accounting information in economic units, the hypotheses of the study can be formulated to suit the problem as follows:

Main hypothesis:

There is a statistically significant effect of IT governance in its various dimensions on improving the quality of fundamental accounting information.

There are five Sub-hypotheses:

H1: There is a statistically significant effect between planning and organizing IT governance and the quality of basic accounting information, which contributes to improving the accuracy and reliability of financial statements.

H2: There is a statistically significant effect between ownership and execution on the implementation of IT systems and the quality of fundamental accounting information.

H3: There is a statistically significant effect of delivery and support in IT management and the quality of fundamental accounting information.

H4: There is a statistically significant effect between the monitoring and evaluation of IT governance mechanisms and the quality of fundamental accounting information.

H5: There is a statistically significant effect between guidance and control on the implementation of IT governance and the quality of fundamental accounting information.

2.5. Study limits

The limitations of this study are defined by several aspects that should be taken into account when interpreting its findings.

- 1) The study was limited to a sample of academics and auditors working in the city of Erbil within the Kurdistan Region – Iraq, which may limit the possibility of generalizing the results to different regulatory or economic environments.
- 2) The study focused on measuring the impact of the dimensions of IT governance on the basic characteristics of the quality of fundamental accounting information only, represented in Relevance and Faithful Representation, since these characteristics represent the essential pillars of effective accounting decision-making, and are the basis for evaluating the usefulness of financial information. The study did not address the enhanced characteristics of the enhancing qualities of accounting information, such as Comparability, Verifiability, Timeliness, and Understandability, to narrow the scope of research and achieve a deeper methodological focus in the interpretation of basic relationships.

While this focused approach enabled more precise interpretation of the essential constructs, it inherently limits the comprehensiveness of the findings. As such, the influence of IT governance on the broader set of accounting information qualities remains unexplored within the current research framework. Future studies are encouraged to investigate these enhancing characteristics to develop a more comprehensive understanding of the relationship between IT governance and the overall quality of accounting information.

2.6. Study model

The study scheme consists of the independent variable represented in the governance of information technology with its five dimensions (planning and organization, ownership and execution, delivery and support, monitoring and evaluation, and guidance and control), and the dependent variable represented by the characteristics of the quality of fundamental accounting information (Relevance and Faithful Representation).

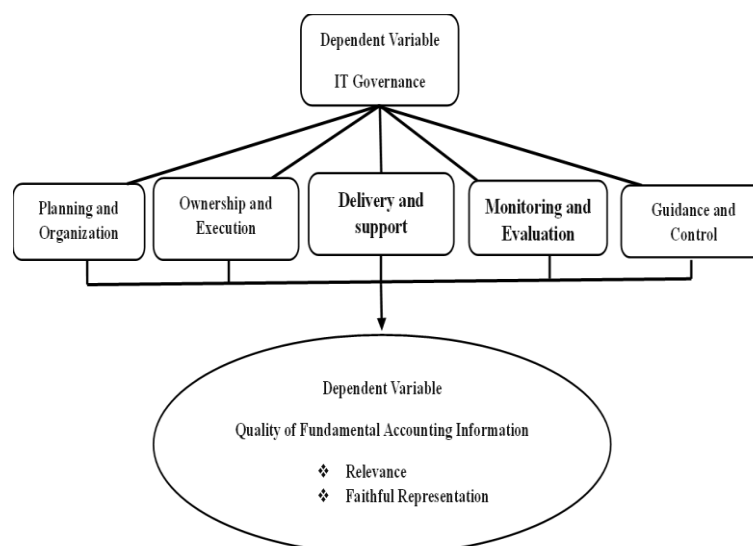


Fig. 1: Study Model (IT Governance & Quality of Fundamental Accounting Information)

3. Theoretical framework

3.1. IT governance concept and definition

There are no single concepts and definitions of what IT governance means, many authors and institutions have defined the concepts of IT governance where we will address many of the following concepts: Makhoulf (2022) sees it as the use of principles, standards and objectives in formulating policies to develop and enhance information technology processes and activities and control over them. IT governance is the use of a set of principles, objectives, and standards to develop and develop policies and procedures to improve and monitor IT operations and activities (Ibrahim, 2022).

While Al-Sawah (2020) pointed out that IT governance is: "a high-cost engine that works to develop and raise work better in economic units, which enhances the quality of work, and reduces waste." IT governance is a set of interrelated parts, such as devices, equipment, and manpower, that manage these parts to provide a system that processes, stores, and returns data and provides information in a useful way to its beneficiaries (Al-Zoubi, 2022).

(Abdulsalam, 2022) presented a definition of IT governance in more than one direction, not just one, as he classified it into four groups, including:

The first group dealt with the concept of information technology governance (ITG) and corporate governance (CG) and defined it as part of corporate governance applied in organizations for which the board of directors and senior management are generally responsible.

The second group: dealt with the definition as the decision-making process for information technology, describing it as "a process through which the responsibility for making information technology decisions is determined, and it is shared by management, all units of the

organization and managers in both senior management and information technology management in the organization, and works to determine investment priorities for information technology."

The third group: dealt with in terms of the relationship of information technology governance and creating value for the organization through a set of information technology governance mechanisms and estimated its contribution to achieving the goals, as it defined it as "the process of directing, developing and controlling the information technology resources available to the organization through mechanisms that add value to business organizations and achieve the goals of the organization.

The fourth group dealt with the definition through the relationship between the information technology systems of the organization's strategy and the organization's strategy and information technology, to achieve the maximum return for the organization that it can obtain, by developing information systems with higher efficiency and managing its risks.

3.2. IT governance objectives

IT governance aims to direct, monitor, and improve the decisions and procedures of individuals to raise efficiency and facilitate coordination of efforts between the relevant authorities, in line with the directions and aspirations of stakeholders, without violate the agreements and laws approved by the Economic Unit (Al-Saeed, 2019). Information technology governance seeks to achieve a set of objectives that affect the performance of the economic unit, and therefore these objectives can be summarized as follows (Al-Fatlawi & al, 2021:299):

- 1) Developing IT strategies and conducting key strategic and operational reviews. Strategy formulation requires imagination to use IT capabilities to build better relationships with partners, customers, and employees.
- 2) Achieve IT information quality standards, which are reflected in effectiveness, efficiency, confidentiality, integrity, compliance, availability, and reliability.
- 3) Physical control of electronic computers and restriction of access to them for programs, equipment, and so on.
- 4) Identify the means, methods, and processes related to information technology, in addition to identifying the most important practices and paying attention to the development of important performance indicators.
- 5) Avoid confusing the tasks and responsibilities of executive directors with the tasks of the board of directors and the responsibilities of the management and its members.
- 6) Increase IT governance capabilities to attract innovations and inventions to reach the desired benefits.
- 7) Assist in crisis and disaster planning.
- 8) Information risk management and information security.
- 9) Separation between ownership, management, and performance control.
- 10) Avoid financial and accounting problems.

3.3. The importance of IT governance

The importance of information technology governance is highlighted by the importance of information technology management and its ability to generate value for the economic unit, as information technology governance in the current era is necessary to maximize the value of the economic unit's work, without which the implementation of decisions cannot be controlled or measured, and information that helps in making strategic decisions regarding information technology cannot be obtained (Ibrahim, 2022).

The importance of IT governance can be challenged by (Al-Samman and Al-Jubouri, 2019):

- 1) IT governance enables management to accurately identify the requirements and interests of customers within the global framework of the service provided by the economic unit.
- 2) IT governance contributes to improving the value of an economic unit and maximizing its business value.
- 3) Facilitate IT governance. Understand and understand management mechanisms.
- 4) Information technology is an essential element in managing enterprise resources and dealing with global customers and suppliers electronically.
- 5) IT governance is used for continuous improvement and development of technology to meet the changing needs of the surrounding environment.
- 6) The ability to fully rely on information technology as a prerequisite stipulated by the regulatory authorities, to apply IT governance well, and enhance the competitiveness of the economic unit.
- 7) Good governance of information technology is an important support to achieve corporate goals, as it ensures the effectiveness of IT services and the delivery of strategy to the departments of the economic unit, which leads to effective production.
- 8) IT governance supports rapid and complex development across the board.
- 9) Enhance the ability of information technology to attract inventions and innovations and achieve expected benefits.

3.4. Dimensions of IT governance

The concept of IT governance is mainly interested in the behavior of diverse groups concerning the economic entity, and hence there are certain characteristics, which must be present in these behaviors to fulfill the purpose of applying this concept, as these features are the major pillars of IT governance, the most important ones of which have been presented below: (Al-Enezi, 2021) (Al Essawe & Huja, 2024).

- 1) Planning and Organization: Formulate plans to manage the mechanism that constrains or eliminates conflicts of interest, since this mechanism starts from the formation of boards and formation of committees until the appointment of an independent effective and capable external auditor, who conducts his job as and when needed by professional caution and resources, to provide his confirmation or certificate that the financial statements fairly reflect the reality of the economic unit's financial position and performance. Additionally, this concept emphasizes getting the information technology in organizations organized as infrastructure, fulfilling the results by applying Information Technology, highlighting strategies and methods regarding the value addition of information technology to the economic unit, and making business objectives adhere to the plan (Al Saleem & Husin, 2023).
- 2) Ownership and Execution: This domain involves identification of information technology needs and finding ways to obtain them, and implementing them through activities that take place within the economic unit, which provides the economic unit with its need for technology to enable the successful conduct of business in the economic unit, and it is tasked with providing a clear structural framework that determines loci of authority and responsibility, and to hold officials and decision-makers accountable for their accountability towards the economic unit and shareholders (Al-Obaidi, 2019).

- 3) **Delivery and Support:** This idea aims at ensuring the continuity of compatibility of current information technology systems with the planned and proposed systems in a bid to achieve the objectives of the economic unit. It also aims at providing delivery and objectively and independently assessing the efficiency and effectiveness of information technology systems, and their ability to achieve business objectives and auditable processes through internal and external auditors. This means that all IT activities and resources must have a single purpose and permanent measures to achieve the quality, according to Control requirements, administrative control of economic unit controls, and supply of independent verification by external and internal auditors (Theba, 2018).
- 4) **Monitoring and Evaluation:** This is important for ensuring that current IT systems and designs are in line with the designed ones to achieve the aim of the economic unit. It also aims to obtain an independent and impartial assessment of the performance of information technology systems and their ability to achieve business objectives and operations in managing the economic unit by internal and external auditors, and compliance with the law, i.e., all information technology procedures and sources require periodic measurement to implement governance. Improvement in quality, compliance with control requirements, administrative control of control activities within the economic entity, and granting autonomous assurances through means of internal and external auditors (Suleiman, 2019).
- 5) **Guidance and Control:** To what extent the current IT systems are monitored and regulated by setting strategic plans, which are then implemented by the economic unit to achieve its objectives and meet future expectations and to what extent its ability to achieve the desired vision sought by the economic unit and through the managers, internal and external auditors of the economic unit, is that all IT activities and assets should be constantly watched and guided in terms of quality and adherence to security and facilities requirements (Al-Duwairi, 2021).

4. Concept and definition of accounting information quality

The accounting information system is a method of providing information to the business language, and this comes through detecting, storing and accumulating data, making the communication process, accounting data recording and processing, to produce information to the decision-makers by using computer devices and software (Ali, 2022), and the financial information quality concepts are the characteristics that must describe accounting information, which is stated in the expected benefit from Preparing financial reports to quantify the quality of resulting information from the application of various accounting methods and strategies (Boukandoura, 2017).

By the quality of financial information is meant "the extent to which the rules are followed and enforced in an orderly and transparent way so that right and technical values are assigned that depict the accounts of the economic unit and their relative significance in financial events" (Zain and Darwasi, 2019).

It was also defined as "the information accuracy in the financial reports and the extent of benefit derived by the users of such reports, and to reach this point, there must be no kind of shading other than having them prepared under legal requirements" (Jard, 2018). It is also known as the degree to which procedures and rules are adhered consistently and in a manner that reveals the truthfulness of the institution's accounts and the relative importance of financial events (Hom et al., 2021). It is also known as one of the components of an administrative organization engaged in collecting, classifying, processing, analyzing, and reporting financial and quantitative information for decision-making to internal and external parties (Jaqaba, 2022). It can be seen from above that accounting addresses providing the economic unit with financial information and technological advances facilitated the generation of accounting information that eases decisions made by the economic unit and allows it to achieve its objectives, and the quality of financial information first captures the accounting information of the economic unit to achieve the quality of decisions made by the economic unit.

4.1. Accounting information quality standards

There are general criteria for measuring the quality of financial information: (Al-Abdi, 2016)

- **Accuracy** as a measure of the quality of financial information: The accuracy of accounting information reflects its importance in evaluating and reporting various events accurately, whether previous, subsequent, or current.
- **Utility** as a measure of the quality of financial information: Here, it is possible to distinguish between several types of benefit, namely:
 - 1) **Formal utility:** that is, the harmony of the form with the needs of the user.
 - 2) **Temporal benefit:** that is, obtaining it when needed.
 - 3) **Evaluative benefit:** Its importance is reflected in the ability to evaluate and correct the results of the implementation of decisions.
- **Effectiveness** as a measure of the quality of financial information refers to the relationship between the objectives set and the results obtained and shows the ability of accounting information to improve the achievement of the objectives set about the results of its use.
- **Forecasting** as a measure of the quality of financial information to increase the quality of financial information, it must be ensured that it can predict future events through a very clear presentation of past financial facts.
- **Efficiency** as a measure of the quality of financial information refers to the relationship between the use of the least possible capacity of resources to obtain the best possible results and the application of the principle of economic feasibility of information, which requires obtaining the best possible information at the lowest costs.

4.2. Factors affecting the quality of accounting information

The quality and usefulness of financial information is affected by many factors, whether within the work environment of the economic unit or in the surrounding environment, as follows: (Momani, 2019) (Yanti & Pratiwi, 2022) (Magboul et al, 2024)

- 1) **Economic Factors:** The quality of accounting information provided by financial reports varies according to the economic system, in the socialist economy the focus is on accounting information directed to planning in the state and for control provisions, while in the capitalist economy it is of great importance as the focus is on the need to provide appropriateness to the needs of users.
- 2) **Political Factors:** In the accounting environment, the political factor greatly affects accounting operations, as it determines for users of financial reports the need for accounting information that suits the political and economic situation in the country.
- 3) **Social Factors:** The trend towards confidentiality affects the process of collecting and publishing accounting information, as the qualitative characteristics of accounting information are affected by some social values, such as society's tendency to pay attention to confidentiality in financial statements and time.
- 4) **Legal Factors:** The profession of accounting, control and supervision, especially with the emergence of institutions characterized by the separation of ownership from management, is affected by legal factors, the most important of which is a set of legal rules and

regulations, which led to their submission to legal and tax legislation from the beginning of their formation until their liquidation, and this in turn is reflected in how the information is prepared and how.

- 5) Cultural Factors: The educational level is one of the factors that have an impact on accounting and auditing practices in general, and the characteristics of accounting information in particular. The educational level is important so that the user of financial reports can understand what information they contain of information and thus employ it for the purpose he wants.
- 6) Information Related Factors: The quality of financial information in the financial report is affected by the availability of several characteristics and qualities to judge its usefulness in decision-making, in addition to comparability and verification, and the use of computers at present has an impact on the quality of financial information, which led to an increase in the number of users in the world and at the present and appropriate, which led to a decrease in the cost of production and access to information.

4.3. Main characteristics of accounting information

- 1) Relevance: Accounting information is influential and makes a difference in the decision-making process and this is achieved when the decision-maker can make future forecasts or verify previous expectations and the appropriateness of information is affected by its relative importance so that if omitted or presented in the wrong way, it will affect the decision-making process (Azar et al., 2019)
- 2) Faithful Representation: This property represents the most important in determining whether the measurement accurately determines the economic event, and refers to the data and phenomena that are reported are very similar to achieve an faithful representation of financial information, and this is done when the information contained in the financial reports matches the accounting events that they represent honestly and fairly and achieves faithful representation when representing the content in substance in the sense that for accounting information to be highly reliable, it must represent financial information and events The other is truthfully and in the way it should be understood to represent it (Kieso et al., 2015).

4.4. Secondary characteristics of accounting information

- 1) Comparability: It means the possibility of comparing financial information for a certain period with financial information for a previous period of the same organization or comparing it with other organizations, and this is done by consistency in following accounting policies and methods by the organization, which makes the comparison process useful (Alexander & Nobes, 2020).
- 2) Verifiability: Verification occurs when, using the same methods, independent assessors obtain similar results. For example, verification occurs when two independent auditors calculate the inventory of a particular company and arrive at the same actual quantity of inventory; therefore, verification of the amount of an asset can occur by counting the inventory.
- 3) Timeliness: Timely adherence means that information is available to decision makers before it loses value in influencing decisions, that having the right information sooner can enhance its ability to influence decisions, and a lack of timeliness can lead to the loss of information for its usefulness.
- 4) Understandability: Decision makers vary greatly in the types of decisions they make, how they make decisions, the information they already have or can obtain from other sources, and their ability to process information for useful information to be connected (linked) between these users and the decisions they make (Kieso, et al., 2015).

It should be noted that this study focused on the basic characteristics of the quality of accounting information - namely relevance and faithful representation - without addressing the reinforcement characteristics, based on the fact that the basic characteristics are the essence on which to judge the usefulness of financial information, and that the impact of IT governance is clearly shown through these essential characteristics before addressing the complementary or enhanced characteristics.

5. Methodology

The descriptive analytical approach was used due to its suitability to the nature of this study, during which the phenomenon under study can be accurately described, its data analyzed, and through a scientific methodology to obtain scientific results and interpret them clearly and impartially in order to achieve the objectives and hypotheses of the study.

The questionnaire consists of three axes. The first axis includes the changes in the personal data of the members of the study sample, as follows:

- Gender has two categories (male, female)
- Age, with four levels (less than 30 years, between 30-40 years, between 40-50 years, 50 years and older)
- Academic qualification, which has six levels (Master, PhD, Auditor)
- Years of experience has five levels (less than 5 years, 5-10 years, 10-15 years, 15-20 years, 20 years and above)

The second axis: It consists of a set of paragraphs by 22 paragraphs, illustrating the variables of the study represented in the governance of information technology in its dimensions, and distributed on five dimensions as in Table 1:

Table 1: Split Paragraphs of the Independent Variable: IT Governance

IT Governance	Planning & Organization	Ownership & Execution	Support & Delivery	Monitoring & Evaluation	Guidance & Control
Number of paragraphs	5	5	4	5	3
Order of paragraphs	1 – 5	6 – 10	11 – 14	15 – 19	20 - 22

Source: Prepared by the researcher.

The third axis: It consists of a set of paragraphs (10), explaining the main characteristics of the accounting information related to the dependent variable (quality of financial information).

The study relied on the categorical scale (Interval Scales): This scale is based on division into several categories according to importance or degree of approval, often referred to as the scale (Likert), and we find that these five points constitute the scale, at the far end of the scale there is strong approval, and on the other end there is a strong disagreement and between there are intermediate points, each point on the scale carries a degree, and the response is given that indicates the lowest degree of approval (1), and the most approval is given a score (5) The same is true for each of the five responses, as shown in Table 2:

Table 2: Likert Scale Scores

Classification	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Degree of Response	5	4	3	2	1

Although the Likert scale used in this study consists of five response levels, the descriptive analysis interprets mean scores using three grouped categories (Low, Moderate, Significant). This grouping is based on an interval formula suggested by Subedi (2016), where: $(5-1)/3 = 1.33$. Thus:

(1.00–2.33) is interpreted as Low,

(2.34–3.66) as Moderate, and

(3.67–5.00) as Significant.

This simplification is applied only to summarize central tendencies in descriptive tables, while inferential analyses such as regression are conducted using the full numerical scale. (Subedi, 2016)

6. Data analysis and hypothesis testing

6.1. Descriptive statistical analysis

6.1.1. Presentation and analysis of the first axis: personal data

The research community is represented by the accountant qualifications in Erbil, Kurdistan Region, Iraq. A random sample of 110 accountants was taken, and the questionnaire was delivered to them; 92 of them replied and answered, all of which are valid for the study. Therefore, the percentage of valid questionnaires for analysis in its entirety represents 84%, which is a good ratio, so that the results obtained in testing the hypothesis can be relied upon.

In this part of the study, the characteristics and personal data of the members of the study sample will be presented as follows:

Table 3: Presentation and analysis of personal data

Variable	Level	Iteration	Percentage
Sex	Male	57	61.95 %
	Female	35	38.05 %
	Total	92	100 %
Lifetime	Less than 30 years old	18	19.56 %
	Between 30 – 40 years old	38	41.30 %
	Between 40 – 50 years old	25	27.17 %
	Above 50 years	11	11.95 %
	Total	92	100 %
Qualification	Master	42	45.65 %
	PhD	24	26.08 %
	Auditor	26	28.26 %
	Total	92	100 %
Years of Experience	Less than 5 years	12	13.04 %
	Between 5 – 10 years	21	22.82 %
	Between 10 – 15 years old	23	25 %
	Between 15 – 20 years	17	18.47 %
	Above 20 years	19	20.65 %
	Total	92	100 %

Source: (prepared by the researcher after referring to the SPSS Software).

The above table shows the following:

Gender variable: The percentage of males in the school year was 61.95%, while the percentage of females was 38.05%, and this indicates that most of the target sample members are males.

Age variable: The highest percentage of the distribution of the members of the study sample according to the age variable was (41.30%) for the age group (between 30-40 years), while the lowest percentage (11.95%) for the age group (50 years and over), and this result can be justified by the fact that the majority of professors at the university Salah al-Din contract after a year (60).

Variable academic qualification: The highest percentage of the distribution of the members of the study sample for the variable of scientific qualification (45.65%) for the academic qualification (Master), while the lowest percentage reached (26.06%) for the scientific qualification PhD, and the reason for the high percentage of the master's degree is that most of the members of the study community are relatively new graduates and do not have a higher degree, and the doctorate can obtain the lowest percentage to holders of a doctorate in the field of accounting very little compared to the master's degree and bachelor's degree in the same Domain.

Years of Experience Variable: The highest percentage distribution of sample members according to the years of experience variable was (25%) for the number of years of experience (between 10-15 years), while the lowest percentage (13.04%) was for the number of years of experience (less than 5 years).

6.1.2. Presentation and analysis of results related to the level of the independent variable IT governance

To find out the level of IT governance in the economic units, the arithmetic averages and standard deviations of the estimates of the study sample were extracted from the five dimensions of the field of IT governance, and the field, Table No. (3) illustrates this.

Table 4: Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample Members on the Dimensions of the Field of IT Governance from the Participants' Point of View

#	Details	Arithmetic Mean	Standard Deviation	Evaluation Score
1	Planning & Organization	3.67	0.36	Significant
2	Ownership and Execution	3.80	0.49	Significant
3	Support & Delivery	3.98	0.40	Significant
4	Monitoring and Evaluation	3.94	0.37	Significant

5	Guidance and Control	4.03	0.47	Significant
	The field of IT Governance as a whole	3.88	0.16	Significant

Source: (prepared by the researcher after referring to the SPSS Software).

The above table shows that the level of use of information technology governance in economic units was significant, as the arithmetic average of the field of information technology governance as a whole reached (3.88) with a high evaluation score, and the table also shows that the arithmetic averages of the study sample members on the dimensions of the field of information technology governance ranged between (3.67 – 4.03) with a high evaluation score for all five dimensions, came first after "Guidance and Control" with an arithmetic average of (4.03), and got the dimension of "Support and Delivery" with an arithmetic average of (3.98), It ranked third after "Monitoring and Evaluation" with an arithmetic average of (3.94), came fourth after "Ownership and Implementation" and finally came fifth after "Planning and Organization" with an arithmetic average of (3.67), which indicates the superiority of the economic unit and its distinction in the markets.

The first dimension: Planning and Organization:

Table 5: Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample Members for Paragraphs After "Planning and Organization"

#	Details	Arithmetic Mean	Standard Deviation	Evaluation Score
1	The management of the economic unit informs all employees of their roles in the use of information technology in a clear and written manner.	3.78	1.18	Significant
2	Policies and procedures contribute to ensuring compliance with administrative directives regarding information technology in the economic unit.	3.64	1.28	Moderate
3	The management of the economic unit ensures the clarity of powers and responsibilities through an effective communication system.	3.79	1.11	Significant
4	In the economic unit, there is a strategic plan for the development of new information systems.	3.53	1.25	Moderate
5	The Economic Unit exercises IT governance and adheres to its principles.	3.59	1.34	Significant
	The Planning & Organization dimension as a whole	3.67	0.36	Significant

Source: (prepared by the researcher after referring to the SPSS program).

The above table shows that the arithmetic average of the dimension of "Planning and Organization" as a whole amounted to (3.67) with a significant degree of evaluation, and the table also shows that the arithmetic averages of the members of the study sample for the paragraphs of the dimension ranged between (3.53 - 3.79) came in first place The paragraph reads: The management of the economic unit ensures the clarity of powers and responsibilities through an effective communication system, while the paragraph came in last place, which reads: The economic unit has a strategic plan for the development of new information systems, which indicates the excellence of the economic unit by preparing a strategic plan for the development of information and communication systems, and ensuring compliance with the laws of the economic unit.

The second dimension: Ownership and Execution:

Table 6: Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample Members for Paragraphs After "Ownership and Execution"

#	Details	Arithmetic Mean	Standard Deviation	Evaluation Score
1	The management of the economic unit ensures the availability of qualified employees with the users of electronic information systems.	3.55	1.30	Moderate
2	The economic unit has mechanisms to process and follow up on communications received from external parties.	3.73	1.27	Significant
3	The organizational structure helps the management of the economic unit to clearly define the tasks of IT governance.	4.10	0.89	Significant
4	The Board of Directors of the Economic Unit is committed to applying the highest standards of professional performance to all activities of the Economic Unit.	3.64	1.23	Moderate
5	The selection, development, and implementation of the continuous evaluation process of the components of the use of information technology in the economic unit is carried out.	3.98	1.05	Significant
	The Ownership & Implementation dimension as a whole	3.80	0.49	Significant

Source: (prepared by the researcher after referring to the SPSS Software).

The above table shows that the arithmetic average of the dimension of "Ownership and Execution" as a whole amounted to (3.80) with a significant degree of evaluation, and the table shows that the arithmetic averages of the study sample members for the paragraphs of the dimension ranged between (3.55 – 4.10) came in first place paragraph reading: The organizational structure helps the management of the economic unit to clearly define the tasks of information technology governance, while the paragraph came in last place, which reads: The management of the economic unit ensures the availability of qualified employees with the users of electronic information systems, which indicates the interest of the economic unit in using a special system to develop and implement the evaluation process for the components of the use of information technology in the economic unit.

Third Dimension: Support and Delivery:

Table 7: Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample Members for Paragraphs After "Support and Delivery"

#	Details	Arithmetic Mean	Standard Deviation	Evaluation Score
1	Performance reports submitted to the management of the economic unit contribute to addressing deficiencies and developing work on information technology.	4.18	1.00	Significant
2	The management of the economic unit ensures the realism and achievability of performance objectives.	3.84	1.08	Significant
3	Risks and opportunities are identified after conducting field studies using modern techniques.	4.12	0.95	Significant

4	The management of the economic unit employs the specified budget to support the effective use of information technology and per the planned improvement and development plan.	3.79	1.12	Significant
The Support & Delivery dimension as a whole		3.98	0.40	Significant

Source: (prepared by the researcher after referring to the SPSS Software).

The above table shows that the arithmetic average of the dimension of "Support and Delivery" as a result reached (3.98) with a Significant evaluation score, and the table shows that the arithmetic averages of the study sample members for the paragraphs of the dimension ranged between (3.79 - 4.18) came in first place, a paragraph that reads: Performance reports submitted to the management of the economic unit contribute to addressing deficiencies and developing work about information technology, while the paragraph reads last: The management of the economic unit employs the specified budget to support the effective use of information technology and by the drawn improvement and development plan, which indicates that the economic units are periodically concerned with the performance reports submitted to the department, addressing deficiencies and developing procedures about information technology.

Fourth Dimension: Monitoring and Evaluation:

Table 8: Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample Members for Paragraphs After "Monitoring and Evaluation"

#	Details	Arithmetic Mean	Standard Deviation	Evaluation Score
1	The management of the economic unit identifies the risks related to information technology that can be controlled.	3.97	0.99	Significant
2	The management of the economic unit evaluates the use of information technology from the lower lines of work up to public activities.	3.85	1.09	Significant
3	Internal control work includes follow-up and assessment of risks related to the preparation of accounting information.	4.26	0.72	Significant
4	The management of the economic unit monitors the transactions, activities and events related to the unit and compares them with predetermined criteria.	3.83	1.02	Significant
5	The management of the economic unit reviews, develops, and amends the governance manual from time to time and whenever necessary.	3.82	0.91	Significant
The Monitoring & Evaluation dimension as a whole		3.94	0.37	Significant

Source: (prepared by the researcher after referring to the SPSS Software).

The above table shows that the arithmetic average of the dimension of "Monitoring and Evaluation" as a whole amounted to (3.94) with a Significant degree of evaluation, and the table also shows that the arithmetic averages of the members of the study sample for paragraphs ranged between (3.82 – 4.26) came in first place, paragraph reading: Internal control work includes follow-up and assessment of risks related to the preparation of accounting information, while the paragraph reads last: The management of the economic unit reviews, develops and amends the governance manual from time to time and whenever necessary, which indicates that the economic unit is interested in identifying and following up on risks related to information technology by appointing experts and specialists to keep abreast of developments and developments in the use of information technology.

Fifth Dimension: Guidance and Control:

Table 9: Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample Members for Paragraphs After "Guidance and Control"

#	Details	Arithmetic Mean	Standard Deviation	Evaluation Score
1	Internal control activities in the economic unit are treated as part of daily duties.	4.09	0.79	Significant
2	The Economic Unit applies accountability rules by IT governance at the individual and collective levels.	4.12	0.85	Significant
3	The principles of IT governance are applied for guidance and control, leading to the accountability of designated entities by the duties entrusted to them.	3.87	1.06	Significant
The Guidance & Control dimension as a whole		4.03	0.47	Significant

Source: (prepared by the researcher after referring to the SPSS Software).

The above table shows that the arithmetic average of the "Guidance and Control" dimension as a whole amounted to (4.03) with a Significant evaluation score, and the table shows that the arithmetic averages of the study sample members for the dimensions ranged between (4.12 - 3.87) The paragraph came in first place, which reads: The economic unit applies accountability rules by information technology governance at the individual and collective levels, while the paragraph reads last: The principles of IT governance are applied about guidance and control leads to the accountability of the designated entities by the duties entrusted to them, which indicates that the economic units apply the principles and rules of IT governance by applying the rules of accountability for both the individual and the group.

6.1.3. Presentation and analysis of results related to the level of the dependent variable quality of accounting information

To determine the level of quality of accounting information in the economic unit, arithmetic means and standard deviations were calculated for the study sample's responses regarding the items related to the domain of accounting information quality and the domain.

Table 10: Arithmetic Averages and Standard Deviations of the Estimates of the Study Sample Members for Paragraphs After "Quality of Accounting Information"

#	Details	Arithmetic Mean	Standard Deviation	Evaluation Score
1	Management seeks through accounting information to reflect the true economic reality of the economic entity in the market.	4.08	0.84	Significant
2	Accounting information provides highly relevant information that is valuable for all stages of data preparation and processing.	3.98	1.02	Significant
3	Accounting information provides reliable and credible information with faithful representation across all stages of data preparation and processing.	3.97	1.05	Significant
4	The management of economic units seeks, through accounting information, to produce financial data with a high level of relevance.	3.98	0.95	Significant

The regression coefficient (B) for IT Governance is 0.669, with a standard error of 0.147 and a t-value of 4.536, which is highly significant ($p < 0.001$). This indicates that for every one-unit increase in the IT governance score, the quality of accounting information is expected to increase by approximately 0.669 units, holding other factors constant.

The model's R-squared value is 74%, meaning that the combined IT governance variable explains 74% of the variation in the quality of accounting information. This is a very strong explanatory power, suggesting that IT governance as a unified construct is a critical determinant of accounting information quality.

Furthermore, the constant term is 1.413, also statistically significant ($p = 0.015$), implying that when IT governance is at a baseline level (zero), the expected quality of accounting information still holds a moderate value.

In summary, this model reinforces the importance of integrated IT governance practices in enhancing the quality of accounting data. The high R-squared value demonstrates that IT governance is not only statistically significant but also practically impactful, making it a central pillar in achieving reliable and high-quality financial reporting.

7. Discussion of results

The statistical analysis revealed significant relationships between the five dimensions of IT governance and the quality of accounting information. In this section, each result is discussed from an accounting perspective to contextualize its practical implications within organizational and financial reporting environments.

1) **Planning and Organization:** The regression analysis indicated a statistically significant but modest positive effect of planning and organization on the quality of accounting information ($B = 0.161$, $p = 0.024$, $R^2 = 53\%$).

Accounting Interpretation: Although the impact is relatively low, this dimension plays a foundational role. Sound planning and structured organization of accounting information systems ensure consistency in data flow and reduce ambiguity in processing. From an accounting standpoint, this helps create a stable environment for generating financial reports. However, without proper implementation and follow-through, planning alone may not lead to substantial improvements in information quality.

2) **Ownership and Execution:** The dimension of ownership and execution demonstrated a stronger and highly significant effect ($B = 0.689$, $p < 0.001$, $R^2 = 47\%$).

Accounting Interpretation: This suggests that active engagement of accounting staff in system execution and their sense of ownership over processes contribute directly to improved data accuracy and timeliness. In practice, when accountants are given the right tools and authority, the reliability of financial reporting improves, and the risk of manual errors or delays is reduced. This finding supports the notion that technology alone is insufficient without effective human integration and accountability.

3) **Delivery and Support:** This dimension yielded one of the strongest effects ($B = 0.712$, $p < 0.001$, $R^2 = 63\%$).

Accounting Interpretation: Clear delivery between IT and accounting departments, along with strong user support, enhances the quality of inputs and the flow of information across departments. From an accounting perspective, such alignment is vital to ensure that financial reports reflect real-time, complete, and consistent data, which is critical for audit readiness, managerial decision-making, and external stakeholder trust.

4) **Monitoring and Evaluation:** A positive and significant relationship was found between this dimension and the quality of accounting information ($B = 0.531$, $p < 0.001$, $R^2 = 45\%$).

Accounting Interpretation: This result confirms the importance of continuous oversight mechanisms in the accounting cycle. Periodic evaluations of system performance and user compliance can prevent data integrity issues and allow for timely corrective actions. Accounting systems that incorporate routine evaluations are more likely to detect errors early, enhance internal controls, and improve the verifiability of reports.

5) **Guidance and Control:** This was the most influential factor in the model, with a very strong effect ($B = 0.921$, $p < 0.001$, $R^2 = 85\%$).

Accounting Interpretation: This underscores the critical role of managerial oversight and policy enforcement in achieving high-quality accounting outputs. Guidance from leadership, combined with structured supervision, enforces compliance with internal procedures and external standards (e.g., IFRS). This, in turn, enhances the credibility and reliability of the financial statements, reducing audit risk and strengthening corporate governance.

Overall Effect of IT Governance (Composite Variable)

When all five dimensions were aggregated into a composite IT governance variable, the analysis showed a significant effect on the quality of accounting information ($B = 0.669$, $p < 0.001$, $R^2 = 74\%$).

Accounting Interpretation: This highlights the holistic impact of IT governance when implemented in an integrated manner. A unified IT governance framework contributes to improved data quality, transparency, and consistency. From an accounting perspective, this alignment supports compliance with accounting principles and enhances the strategic value of financial reporting systems in guiding investment decisions, internal budgeting, and risk management.

8. Recommendations

Considering the statistical findings and their accounting interpretations, several key recommendations are proposed to enhance the quality of accounting information through the effective implementation of information technology (IT) governance practices. These recommendations are directed toward accounting professionals, system administrators, and organizational decision-makers:

1) **Strengthen Planning and Organizational Structures:**

Organizations should formulate strategic plans for accounting information systems that align closely with operational and financial objectives. Establishing structured workflows and clearly defined roles and responsibilities will help ensure the consistency, accuracy, and reliability of financial data inputs.

2) **Enhance system ownership and execution**

It is essential to empower accountants with greater autonomy and responsibility in managing and operating accounting systems. Providing targeted training programs and role-specific system access will enhance accountability and reduce overreliance on IT departments for routine tasks.

3) **Improve delivery and support mechanisms**

Organizations should establish well-defined communication channels among accounting, IT, and other relevant departments to maintain seamless data flow. Continuous technical support and user assistance must be ensured to minimize data entry errors and prevent misinterpretations of system outputs.

4) Institutionalize monitoring and evaluation processes

Internal audit units should be strengthened and entrusted with the regular assessment of the functionality and integrity of accounting information systems. Implementing periodic performance reviews and feedback mechanisms will facilitate the early detection of irregularities and support ongoing system improvements.

5) Reinforce guidance and control practices

Senior management and financial controllers should enforce rigorous oversight over accounting processes to ensure compliance with established reporting standards. Clear supervisory protocols, timely approvals, proper documentation, and adherence to internal control procedures are critical for maintaining system integrity.

6) Adopt an integrated IT governance framework

Organizations are encouraged to develop a holistic governance model that integrates planning, execution, support, monitoring, and supervision as mutually reinforcing components. Aligning this framework with international standards such as COBIT or ISO/IEC 38500 will promote adherence to globally recognized best practices.

7) Policy recommendations for professional bodies and regulators

Professional accounting bodies should prioritize the inclusion of IT governance principles in education, training, and certification programs to raise awareness among practitioners. Regulatory authorities are also encouraged to issue guidelines that advocate for the adoption of IT governance practices to enhance the transparency and reliability of financial reporting.

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