



**The role of modern accounting software in improving the quality of accounting information: A case study of eXtensible Business Reporting Language (XBRL) as a model**

Sobaihi Nawel\* , University of Bouira (Algeria), n.sobaihi@univ-bouira.dz

Received: 30/04/2024

Accepted: 25/10/2024

Published: 03/11/2024

**Abstract :**

The advent of modern accounting software technology has provided numerous efficient and effective methods for preparing financial reports, whether in terms of time and cost or in terms of delivering accounting information to users and the speed of its flow. However, with the proliferation of methods for presenting accounting and financial information over the internet, the problem of comparing them among users has emerged, potentially compromising their quality. This led to consideration of a standardized method for preparing and disseminating accounting and financial information electronically to unify it.

The emergence and evolution of XBRL, the Extended Business Reporting Language, have been of paramount importance in enhancing the presentation of accounting and financial information in a unified language. It works to improve its quality by increasing transparency, reliability, and ease of exchange. As a result, regulatory bodies such as securities commissions, stock exchanges, and other financial communities have mandated the use of XBRL for preparing financial reports, given its emphasis on accounting and financial information and meticulous details, ensuring their quality.

**Keywords:** Modern accounting software, XBRL (Extended Business Reporting Language), financial and accounting information, quality of accounting information.

**الملخص:**

وفرت تكنولوجيا المعلومات العديد من البرامج المحاسبية الحديثة ذات الأساليب الأكثر كفاءة وفعالية عند إعداد التقارير المالية سواء من حيث الوقت والتكلفة أو من حيث توصيل المعلومات المحاسبية لمستخدميها وسرعة تدفقها، ومع تعدد طرق عرض المعلومات المحاسبية والمالية عبر شبكة الانترنت ظهرت مشكلة مقارنتها لدى مستخدميها مما قد يفقدها جودتها، الأمر الذي أدى إلى التفكير في طريقة معيارية لإعداد ونشر المعلومات المحاسبية والمالية إلكترونياً بغرض توحيدها.

فكان لظهور XBRL لغة تقارير الأعمال الموسعة وتطوره أهمية بالغة في تحسين عرض المعلومات المحاسبية والمالية بلغة واحدة، حيث يعمل على تحسين جودتها من خلال زيادة شفافيتها وموثوقيتها وسهولة تبادلها، لذلك فقد فرضت هيئة الأوراق المالية والبورصات والمجتمعات المالية الأخرى استخدام لغة تقارير الأعمال الموسعة XBRL عند إعداد التقارير المالية، نظراً لتمييزه بتركيزه الأساسي على المعلومات المحاسبية والمالية والتفاصيل الدقيقة مما يضمن جودتها.

**الكلمات المفتاحية:** البرامج المحاسبية الحديثة، لغة تقارير الأعمال الموسعة XBRL، المعلومات المالية والمحاسبية، جودة المعلومة المحاسبية.

\* Corresponding author: Sobaihi Nawel

## **1. INTRODUCTION:**

Accounting is the language of business, and its intelligence lies in the accounting information system. However, understanding financial and accounting information and conveying it in different languages or formats poses challenges worldwide. One of the primary areas of concern is financial reporting, where regulatory and accounting bodies apply different standards in preparing similar reports based on the needs of the targeted users. The main criticism of financial reporting has been its lack of timely provision of financial and accounting information to its users, affecting its quality. To address these issues, the financial community needed to address two fundamental issues: the dissemination and standardization of financial and accounting information.

Naturally, to expedite the access of business specialists and analysts to this information, the solution lay in electronic means, specifically the internet. It works to alleviate pressure for adhering to timely commitments. The development of XML (eXtensible Markup Language) ensures that financial reports, through electronic communication technology, meet the highest standards of accuracy and reliability. However, the missing link was reaching a unified condition within a sector or industry that would make data easily transferable across disparate systems.

XBRL, or eXtensible Business Reporting Language, is considered one of the modern accounting programs that have recently emerged to fill the missing link. It is the set of specifications that allow for the rapid expression of financial reporting concepts with greater efficiency and at lower cost. This comes after accountants used to process and prepare financial information using traditional methods, which were laborious and less effective in terms of time and cost.

### **1.1. Statement of the Problem:**

In light of the foregoing, the main problem statement for this study can be formulated as follows:

"What is the role of eXtensible Business Reporting Language (XBRL) as a model for modern accounting programs in improving the quality of accounting information?"

### **1.2. Research Questions:**

To simplify the main problem statement, the following sub-questions have been proposed:

- What do we mean by modern accounting programs? What are their types and functions?
- What is the concept of accounting information quality? How is it related to modern accounting programs?
- What is XBRL? What is its role in improving the quality of accounting information?

### **1.3. Hypothesis/ hypotheses:**

In order to address the main problem statement and the sub-questions of the study, we relied on the following hypotheses:

- Modern accounting programs are considered a revolution in the accounting field due to their role in facilitating accounting tasks.
- There is a relationship between modern accounting programs and the efficiency and effectiveness of accounting information.
- The implementation of XBRL, as a model of modern accounting programs, has an impact on improving the quality of accounting information.

### **1.4. Significance of the Study:**

The importance of the study lies in the critical need for accounting programs in the era of information technology. This need arises from the complexity of accounting processes, their susceptibility to errors, and the increasing volume of accounting transactions, additionally to the continued rise in business variables that must be taken into account, and the necessity for accounting to align with them, have made accounting programs coupled with necessary expertise, processing speed, and lower costs essential tools. These tools assist in tracking financial transactions, conducting analyses, deriving insights, and maintaining data integrity, particularly concerning the preparation of financial reports.

### **1.5. Objectives of the Study:**

Given the need to prepare high-quality reports on financial and accounting information to achieve efficiency, effectiveness, and make informed investment decisions, this study explores the role of using XBRL as a new programming language in enhancing accounting information in terms of efficiency, reliability, data integrity, quality, and accuracy of financial reports. XBRL is considered one of the modern accounting programs that focuses on financial reports and detailed information.

### **1.6. Methodology of the Study:**

In order to achieve the research objectives, a descriptive-analytical approach was adopted. This approach aims to obtain initial information from previous literature and then analyze the relationship between accounting programs and the quality of accounting information. As a model, focus was placed on the Extended Business Reporting Language (XBRL).

### **1.7. Previous researches :( literature review)**

- The study of Nader Rezaei (2013): The Effect of Information Technology Systems on the Accounting Information Quality. This study focused on the impact of information technology on the qualitative characteristics of accounting information through surveying finance managers, accountants, and internal auditors. The study concluded that the use of information technology led to

significant changes in the quality of accounting and financial information, especially concerning timeliness and comparability. However, despite its advantages, it may lead to the creation of unreliable information.

- The study of Majed Adel Alsharayri and Majd Abdulkareem Al-Arabiati (2021): The expected impact of using extensible business reporting language on financial information quality in Jordanian banks. This study aimed to determine the expected impact of using the eXtensible Business Reporting Language (XBRL) on the quality of financial reports in Jordanian banks. The study found a statistically significant impact of using XBRL on the quality of financial reports and recommended its adoption. It also suggested that the Central Bank of Jordan should organize seminars and practical workshops for accountants to emphasize the importance of implementing this language for preparing future financial data.

### **1.8. Organization of the Study:**

For a thorough understanding of the subject and to address the study's inquiries, we divided the research into three axes. In the first axis, we delved into the conceptual framework of accounting software, its tasks, and functions. The second axis explored the relationship between modern accounting software and the quality of accounting information. Finally, In the third axis, we examined a model of modern accounting software, namely eXtensible Business Reporting Language (XBRL), and its role in enhancing the quality of accounting information.

## **2. A conceptual overview of contemporary accounting software:**

The historical evolution of accounting software began in the late 1950s when it became challenging to manually retain data at a reasonable cost, due to its repetitive nature and the large volume of transactions. As a result, the automation of accounting and financial information began and rapidly proliferated.

### **2.1. The concept of modern accounting programs:**

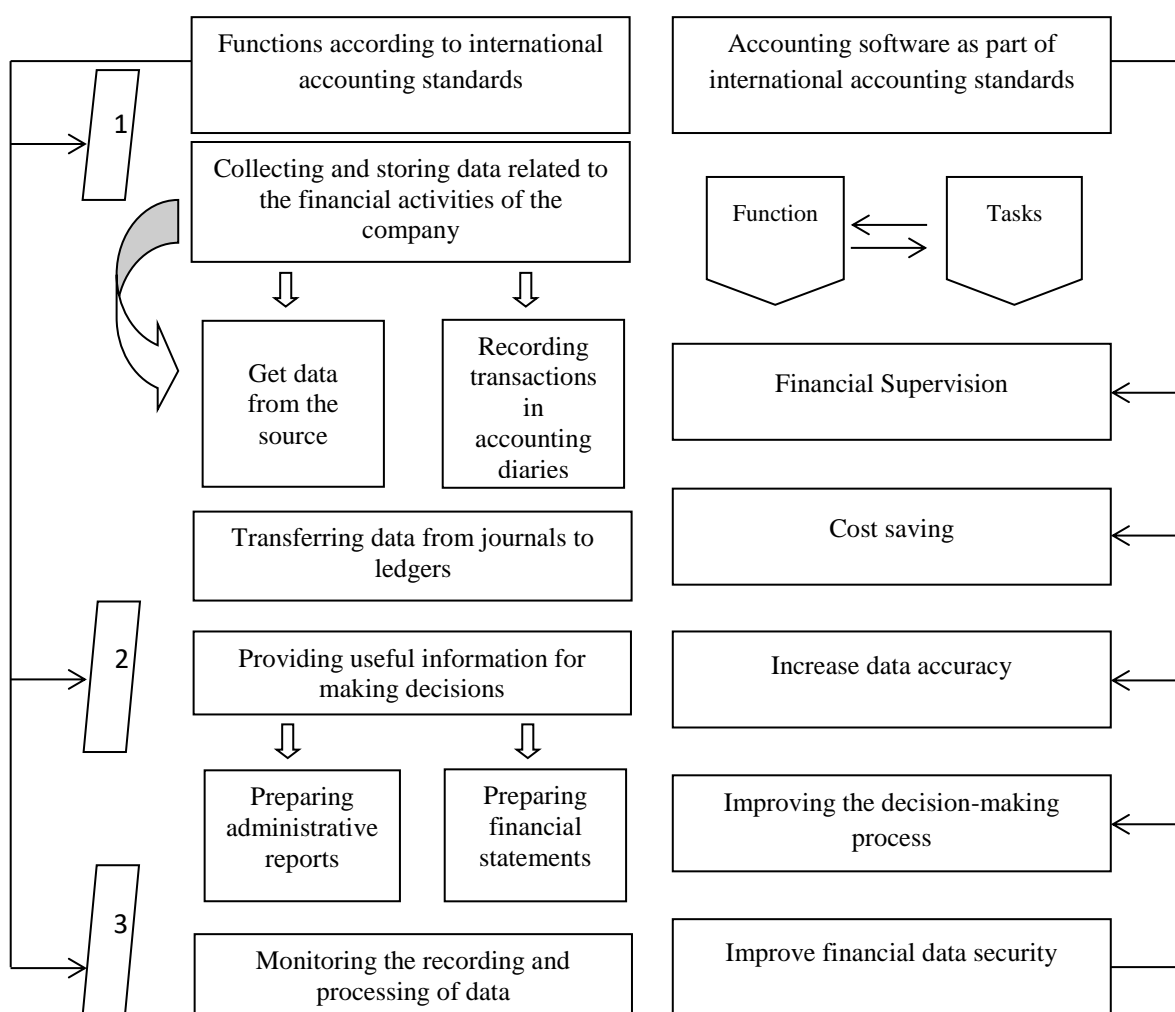
Accounting software is a computer-based program utilized by accounting professionals to record, process, and maintain financial transactions within functional modules. These modules include: journal Entries, General accounting ledger, accounts receivable, inventory management, and payroll processing through financial statements. Consequently, this software enhances the accounting and financial functions within companies, serving as a financial information system. It employs data storage technology, accuracy, and risk management through information transfer via interconnected blocks forming a chain that expands over time (Said & Aliu, 2022, P 30). Accounting software is defined as: "Software used to maintain accounting records on computers. The program can be used to record transactions, maintain account balances, and prepare financial data and reports." (Marushchak et al., 2021, P 863)

Indeed, accounting software constitutes a specialized category of computer programs that facilitate business management, simplify the work of accountants, and make information storage more reliable. It enables analysis and decision-making processes. The internet development has led to a significant increase in demand for accounting software and its evolution. Many accounting programs have been specifically designed to keep pace with the advancements in information and communication technology. While these programs make accounting operations easier, all software must meet the necessary requirements for legal and ethical characteristics.

**2.2. Functions and tasks of modern accounting software:**

Modern accounting software programs encompass standard functions and stand out for their speed and accuracy in executing operations compared to other software. They also offer additional features such as enhancing resource efficiency and reducing costly accounting ledger errors. These functions and tasks can be elucidated through the following illustration:

**Figure N°01:** Functions and administrative tasks of modern accounting programs



**Source:** (Marushchak et al., 2021, P 864)

### **2.3. Types of modern accounting software:**

Accounting software is typically categorized into three main types, which can be summarized as follows (Said & Aliu, 2022, P 31):

- **Installed Accounting Software:** This software is transferred to a specific computer and hosted on the server of that device, allowing it to be used only on that computer. This type of accounting software is typically used in situations where internet connectivity is slow and limited. Organizations usually possess this software on hard drives, CDs, or any storage system installed on their desktop or laptop computers.
- **Cloud Accounting:** It is an accounting program that operates entirely in the cloud or over the internet. The software is hosted on remote servers, allowing users to access it from virtually any internet-connected device at any time. Its key features include mobility, and it can be likened to Software as a Service (SaaS) in that it offers accounting functions for businesses. Data is transferred to the cloud where it is processed and returned to the user. Cloud-based accounting software is also known as online accounting software or web-based accounting software.
- **Database Accounting Software:** This type of software requires secure data to operate. Companies must have a wide-ranging database to install such programs. Consequently, it operates with a MICROSOFT database to install and run the program. It requires a system engineer and a system consultant. This software is capable of handling financial management, complex activities, large networks, and intricate accounting functions.

### **3. The modern accounting software and its correlation with the quality of accounting information:**

Information technology has introduced several modern accounting software programs through which accounting information can be transferred quickly and easily in a specific format. This has positively impacted the quality of accounting information, as we will illustrate in this section.

#### **3.1 Quality of accounting information:**

The term "quality" in general refers to the suitability of something for the purpose for which it was prepared. Quality is a relative matter, and its boundaries lie in the acceptability of the service by the client and in satisfying their needs within the limits of the cost they bear. It is also viewed as the degree of suitability for use (Khalil, 2007, P 22). In this context, quality refers to the credibility of the accounting information contained in financial reports and the benefit it provides to users. To achieve this, the information must be free from distortion and deception and must be prepared in accordance with a set of legal, professional, regulatory, and technical standards that serve

the purpose of its use (Hammam, 2009, P 54).

Concepts of information quality refer to the characteristics that accounting information must possess, expressed by the desired benefit from preparing financial reports in evaluating the quality of information resulting from the application of alternative accounting methods and techniques. Numerous studies have addressed this aspect, with Statement No. 02 issued by the Financial Accounting Standards Board (FASB) in 1980, titled "Qualitative Characteristics of Accounting Information," being the most comprehensive and significant. Below, we will briefly outline the qualitative characteristics of accounting information quality as presented by (FASB):

**a) Basic characteristics:** It includes two characteristics:

- Suitability: This refers to the relevance of the information to the decisions being made. Relevant information influences the economic decision-making behavior by aiding in the evaluation of past, present, and future events (Ali Tazdait, 2009, P 23). It is associated with the relative importance property and encompasses three sub-characteristics (Matar & Al-Suwaiti, 2008, P 333):
  - Predictive value: It refers to the value of information as a basis for predicting the cash flows of the entity or its discretionary strength.
  - Feedback value: It refers to the extent to which the information can be relied upon to adjust previous expectations by the decision-maker.
  - Timeliness: The relevance of information to the timing of its delivery. Delivering information to the decision-maker at an inappropriate time diminishes its impact on the decision-making process, thereby depriving it of the intended benefit.
- Reliability: According to Statement No. (2) issued by the (FASB), it means "the information is reasonably free from errors and bias and faithfully represents what it purports to represent"(Hanane, 2009, P 75). It relates to the integrity of the information and the possibility of relying on it, encompassing three subsidiary characteristics:(Hanane, 2009, P 77)
  - Verifiability (Objectivity): This refers to the ability to achieve the same results if the same measurement methods are used.
  - Faithfulness in representation: It means representing accounting information faithfully to the practical reality, reflecting the economic events and financial transactions practiced by the accounting entity. It involves representing financial reports with the essence of their content, not just their form.
  - Neutrality: Accounting information is characterized by neutrality, as it must be free of any bias in measuring results, and presenting them in a manner that does not favor a specific group of financial statement users over others.

**b) Secondary Characteristics:** In addition to the primary characteristics, there are other equally important attributes recommended by the Financial Accounting

Standards Board (FASB) that contribute to the quality of information contained in financial reports: (Hanane, 2009, P 81)

- Consistency: Consistency means following the same accounting methods in recording economic events and reporting them in a unified manner from one period to another. Applying consistency in using accounting principles and procedures makes accounting and financial information more comparable and useful to users.
- Comparability: Accounting information that is measured and reported in a consistent manner across different entities is considered comparable. By "consistency" here, it means that the accounting procedures, measurement, classification, disclosure methods, and presentation applied are the same across various entities.

Therefore, suitability and reliability are the two fundamental characteristics that must be present in accounting information to ensure high quality. In addition to these primary characteristics, there are secondary characteristics such as consistency and comparability. These characteristics are achieved by modern accounting programs when applied appropriately, which we will discuss in detail below.

### **3.2. The relationship between modern accounting software and the quality of accounting information:**

Since the emergence of accounting software, accountants have regarded it as a valuable asset that simplifies financial functions within companies through facilitating communication, ensuring appropriate and sufficient financial control, enhancing data accuracy, cost-effectiveness, improving decision-making processes, enhancing financial data security, and promoting transparency. Essentially, it achieves the qualitative characteristics of financial information outlined by the International Accounting Standards Board and the American Financial Accounting Standards Board. In summary, the relationship between modern accounting software and the quality of accounting information can be succinctly elucidated as follows (Olubunmi & Festus, 2020, P 79):

- Suitability: accounting software serves as a crucial organizational mechanism for effective decision management and achieving efficiency within companies. Hence, efficient accounting software must be capable of executing tasks, managing accounts receivable, handling cash and fixed assets, budget planning, and preparing reports promptly. In other words, it should efficiently execute accounting tasks.
- Reliability: accounting software must generate reliable data used to plan, define, and control business operations, and that is closely related to the company's expectations and goals. The information provided by accounting software must show that it is a true reflection of how the business operates and succeeds, and this can only come from data that not to be manipulated, accounting's responsibility is



to create true reports.

- **Data Accuracy:** The accounting data fed into the accounting system must be accurate, whether in a static or dynamic form. Otherwise, the company is exposed to the risk of making decisions based on erroneous information. Over the long term, this could lead to either the growth or collapse of any company, as such information may include indicators that make any company's shares desirable. Therefore, accounting software must be capable of maintaining an extremely high level of data accuracy. The software should not only be fast in executing tasks that require a level of automation but also precise in its results to a very high degree.

#### **4. A Case Study on eXtensible Business Reporting Language (XBRL) as a Modern Accounting Software:**

HTML used to create websites and web pages found great success for its stunning graphics, but it failed miserably when dealing with data, especially financial data. As the facts and figures generated by HTML are frozen in an ASPIC file although the data is readable. Consequently, web usage cannot be utilized to compare financial results between companies, except through basic search. Comparisons often become a matter of printing each document and doing it manually. Hence, the concept of XBRL was conceived by Charles Hoffman, a certified accountant in Washington state, USA. Since then, XBRL has grown into a global phenomenon. Therefore, it is essential to discuss its emergence, evolution, concept, and components to understand it as a modern language in the accounting field.

##### **4.1. Emergence of eXtensible Business Reporting Language (XBRL):**

Charles Hoffman, a certified public accountant from Washington state, began experimenting with XML in April 1998 (AICPA). XML is a meta-language that allows for the classification, comprehension, and manipulation of data. XML promises to dramatically change the way in which Web content is created, stored, and delivered. The problem with HTML is that it is a hodgepodge of tags that deal with document structure, content, and display. This fact makes it difficult for Web designers and Webmasters to create and maintain the myriad of pages found at most Web sites. This fact also makes it difficult for software robots and software agents to either index or find specific content on the Web. On the other hand, XML is a markup language that focuses on describing the content of the data as opposed to the structure of the document or display. In XML there are no fixed tags. Instead, the Web designer or author is free to create his or her own tags, which is why the markup language is called extensible. Specifically, XML provides a protocol that defines both identifying tags and the relationships among the tags. The ability to define relationships distinguishes XML from HTML, the semantic-driven Web site language. In essence, XML deals with the nature of information, while

HTML controls the presentation. Additionally, as it continues to evolve, XML does not require upgrades with interactive software, unlike the newer versions of HTML, which are only accessible to users with the most up-to-date browser. Convinced of XML's potential, Hoffman approached the AICPA, strongly encouraging the professional organization to promote XML as an alternative method for reporting financial information (Malhotraa & Garrittb, 2004, P 62).

The AICPA formed a group to develop a prototypical set of financial statements. The prototype was presented to the AICPA in January 1999. Impressed with these results, the AICPA then formed a task force, charged with the further development of potential uses of XML for business information reporting (AICPA 2000). Originally, the framework developed by the task force was referred to as XFRML, Extensible Financial Reporting Markup Language, but was renamed XBRL. The XBRL specifications and the first taxonomy for financial reporting of commercial and industrial companies were released on July 31, 2000.

The first international meeting for XBRL was held in London the week of February 19-23, 2001. Two days of public meetings, followed by three days for XBRL members, explored topics such as the newly released International Accounting Standards (IAS) taxonomy, proposed enhancements for the XBRL specification, and industry-specific sessions (Malhotraa & Garrittb, 2004, P 62).

Currently, countries adopting it include Australia, Belgium, Canada, China, Denmark, France, Germany, Greece, India, Ireland, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Singapore, Spain, Sweden, Thailand, the United Kingdom, the United States, and others. By the year 2017, the number of countries exceeded 50. Moreover, the number of supporting organizations and members within the International XBRL organization reached 600, comprising both governmental and private entities. Thus, this language has witnessed widespread adoption across various regions of the world.

#### **4.2. The concept of Extensible Business Reporting Language (XBRL):**

XBRL is defined as a "language used for electronically exchanging financial data, which represents a revolution in the field of business reporting worldwide. It offers significant benefits in data preparation, analysis, and dissemination. This technology enables substantial cost savings, increased efficiency, and improvement in the accuracy and reliability of financial data for all parties involved in providing or using financial data."(Srivastava, 2009, P 13)

XBRL has also been defined as "a standards-based method through which users can prepare, publish (in various formats), exchange, and analyze financial data and information by marking up a portion of the information in the cache memory of the web page that facilitates individual entry and multi-carrier interface." This is something that

accountants, investors, and analysts have been striving for a long time. XBRL language has the ability to search and find specific information and data that can be used to compare the performance of multiple companies or to gather and compare internally generated facts and figures (Sulaiman, 2017, P 554).

Therefore, it can be said that eXtensible Business Reporting Language (XBRL) is a markup language within the extended family of extensible markup languages (XML), which simply takes outputs from the financial system and encodes data in a format that can be automatically read. The XBRL technology relies on XML to prepare reports about business activities through digital media. This framework provides a method for reporting the relevant truth about a decision or business activity as a value for a very specific concept within a particular context. For example, accounts receivable is a well-defined concept in financial accounting and is a budget line item for almost every company, it has value or a fact related to it, and this fact represents the value in this account.

#### 4.3. Extensible Business Reporting Language (XBRL) components:

Extensible Business Reporting Language (XBRL) consists of a set of elements within the context of use. We will clarify some of the main terms used in, as outlined in the table below:

**Table N°01:** Components of Extensible Business Reporting Language (XBRL)

Term	Concept
XML	The extensible markup language, or XML, is a descriptive language that specifies a set of rules for encoding documents.
Namespace	A set of symbols used to distinguish between elements and attributes in documents.
Schema	A definitional specification to define the structure, content, and semantics of documents
Taxonomy	A hierarchical classification system used to organize concepts or elements in a particular field
Form document	Contains actual data encoded using XML document tags and elements
Verification	In line with the rules and standards set for XBRL, the process of checking whether a document is a form
TAG	A label or tag used to identify specific data elements within a form document
The linking rule.	Defines the relationships between elements in an XML classification in a set of files
Tagging Process	The process by which accounting field data is described in XBRL
filing Tagging	The process by which files are converted to the format required by XBRL

tags XBRL	Tags contained within the program written in XBRL language.
IDEL database· EDGAR	Two interactive data feed systems for the US stock market
Attributes XBRL	Characteristics or specifications of this language (official address, name, balance, statement,.....)
Sheet	Format in which the requested document/report is displayed
Style	

**Source:** Prepared by the researcher based on the above.

#### 4.4. XBRL Framework:

The XBRL framework consists of two components: XBRL taxonomies and XBRL instance documents. The XBRL framework defines a syntax through which a business fact can be reported as the value of a well defined reporting concept within a particular context.

The syntax enables software to efficiently and reliably find, extract, interpret, and use those facts for the purpose of analyzing the data and preparing a report. According to XBRL Specification, "A taxonomy is comprised of an XML Schema [SCHEMA-1] and all of the linkbases contained in that schema or directly referenced by that schema. The XML Schema is known as a taxonomy schema. In other words, XBRL taxonomy is made up of a group of interrelated XML files: XML Schema files and Linkbase files.

a) **XBRL Schema:** The XBRL taxonomy schema defines the actual concepts (elements) that form the basis of the taxonomy. It stores their names, data types, period type, how they can be utilized, etc.

b) **The linkbase:** The linkbase files further document the meaning of the concepts by expressing relationships between concepts or inter-concepts and by relating concepts to their documentation. There are five linkbase files under XBRL Specifications (Srivastava, 2009, P 18):

- The label linkbase allows the user to attach human readable labels with different roles and languages to a given concept.
- The reference linkbase allows the user to attach external information (authoritative sources) to concepts.
- The presentation linkbase defines how concepts are nested and ordered.
- The calculation linkbase defines how values of concepts should, for example, sum up from one to another.
- The definition linkbase allows the user to define additional semantics and relationships.

#### 4.5. The role of Extensible Business Reporting Language (XBRL) in improving the quality of accounting information:

If HTML (Hyper Text Markup Language) serves as the foundation for web pages and the World Wide Web, revolutionizing the internet, then XBRL will similarly

revolutionize the field of accounting information through the internet and other digital media,. Particularly, it will greatly impact the quality of accounting and financial information.

**a) The role of Extensible Business Reporting Language (XBRL) in maintaining the context of accounting information:**

HTML was developed to match the presentation of information, whereas XBRL was developed not only to present information but also to maintain the context of the information. While searching for information on the web involves human intervention, for example, if someone searches for IBM's assets, factories, and equipment on Google, they can obtain thousands of pieces of information in a fraction of a second. However, Google's search engine will find multiple different sites/documents containing the words "IBM assets, factories, and equipment." This search is extremely fast, but most of the information is not useful if we want to know the actual dollar value of the "assets, factories, and equipment" in IBM's financial statement. On the other hand, XBRL allows searching for content with context. This means that if IBM quickly prepares its budget without relevant context, most of the information will be useless and cannot be used without XBRL formatting. According to XBRL classification, the automatic copying processes for "assets, factories, and equipment" in its budget will ideally be balanced in the future. Instead of just getting links to sites containing one or more words, we can get the actual answer to the question "What are IBM's assets, factories, and equipment in 2008?"

**b) The importance of Extensible Business Reporting Language (XBRL) in increasing the efficiency and effectiveness of accounting information:**

Since that business information is classified using XBRL, the processing, analysis, and dissemination of information become significantly more efficient and effective. The software can capture and utilize the information repeatedly across diverse applications without the need for redundant data entry. Furthermore, sharing XBRL-tagged information among different computer platforms, such as personal computers, can be done seamlessly and without hesitation, this has several advantages. Because no re-entering information leads to efficiency and effectiveness and eliminates the chances of additional errors, thus leading to more accurate and reliable information available for decision making.

Moreover, companies typically need to prepare various types of reports, some for internal use and others for external purposes. Traditionally, companies achieve this task by manually collecting information from accounting systems, adding information from third parties in different combinations. This process is costly, slow, prone to errors, and often requires reentry. However, centrally using XBRL-tagged information enables the creation of multiple report types solely through software, thereby reducing repetition and

keystroke errors. Furthermore, seamlessly integrating enterprise resource planning (ERP) systems such as PeopleSoft or Oracle with XBRL hubs facilitates the creation of analogous documents and the use of software like Hyperion to efficiently and effectively produce diverse reports such as financial data, earnings releases, and regulatory reports in terms of cost and time.

**c) Extensible Business Reporting Language (XBRL) and its role in making accounting information easily available to its users:**

XBRL makes information easily available to all users regardless of whether they are professional users or not. This, in principle, increases the transparency of information as required by the Securities and Exchange Commission (SEC). Therefore, XBRL will make it easier for companies to comply with regulations and disclosure requirements.

Furthermore, the advantage of XBRL-tagged information lies in the utilization of automated software for business information analysis. Internal and external auditors can employ these tools to analyze financial and non-financial information, identifying any unusual patterns in financial operations and taking corrective actions. Similarly, lenders can utilize such analytical tools to assess the creditworthiness of borrowers. Another benefit is the ability to use these analytical tools online from remote locations, leading to a significant reduction in processing costs.

Thus, XBRL addresses the challenges of delivering information to users in a timely, reliable, and easy-to-use manner by providing an organized and standardized language recognizable by any software accessing the data. Consequently, accounting and financial software can be designed to attach appropriate XBRL tags to the information, enabling data processing for multiple purposes but requiring input only once.

**d) Extensible Business Reporting Language (XBRL) and the value of financial statements:**

Researchers have analyzed the data available from the Securities and Exchange Commission (SEC) voluntary program. In order to understand and evaluate the issues involved in creating XBRL-formatted financial statements, the SEC started a voluntary filer program (VFP) in April 2005, about 125 firms, which have voluntarily submitted over 540 filings to the SEC in XBRL format since the inception of VFP program. Furthermore, they find that subsequent to filing for the first time in XBRL, VFP firms experience an increase in analyst following and trading activity in their stocks. This is an interesting result, it re-enforces the notion that XBRL increases transparency and promotes efficient consumption of financial data (Srivastava, 2009, P 21).

An experiment was conducted by Master of Business Administration (MBA) students aimed to investigate whether the use of the enhanced search engine XBRL assists non-professional financial data users in accessing stock option compensation and integrating it with disclosure. Specifically, they explored the possibility of searching for

financial information in XBRL format within the context of Statement of Financial Accounting Standards (SFAS) No. 123 (Accounting for Stock-Based Compensation), which allows managers to either recognize the fair value of stock option compensation in the income statement as an expense or disclose this information in the footnotes. Reporting income using the disclosure method often leads to higher reported income compared to using the recognition method. However, if an investor combines the information from footnotes with that from the income statement, they should reach the same results. Studies show that financial data users engage more with recognized information than with disclosed information.

The study by Hodges et al. in 2004 revealed that many users may not have access to technology, but those who do are more adept at accessing and integrating information. We find that when accounting for stock option expenses differs among companies, using an enhanced XBRL search engine increases the likelihood of individuals obtaining information about disclosed stock option compensation in footnotes. They also found that individuals who utilized XBRL search technology to integrate information had different investment decisions compared to those who did not use the technology. Furthermore, they observed that search facilitation techniques like XBRL assist financial data users by enhancing the transparency of corporate financial data and management's choices in reporting that information.

**e) Extensible Business Reporting Language (XBRL) and Corporate Governance:**

The SEC Chairman emphasizes that the value of XBRL is clearly demonstrated in providing transparency in information disclosed in real time with interactive data. He states: "We started to find evidence that had never been discovered before, and that led directly to the discovery of what we now know that trillions of dollars in corporate awards from legacy stock options found in XBRL."

Another study confirms that XBRL enhances governance and transparency for employees, investors, creditors, and regulators. To fundamentally change management, XBRL must offer more value than just facilitating data exchange. An analysis of the information value chain suggests that new ways of presenting and processing data yield superior information, when combined with more powerful analytical tools, this leads to better governance decisions. The added value of XBRL comes from using it as a tool for classifying and reformatting user data through a new problem-solving perspective. There's a positive relationship between corporate governance and XBRL, as affirmed by companies participating in the Securities and Exchange Commission's voluntary XBRL filing program.

## **5. CONCLUSION:**

Modern accounting software plays a pivotal role in enhancing the quality of accounting and financial information in our current era. It represents a significant advancement in the field of accounting, with its primary objective being the tracking of financial transactions and the creation of high-quality financial reports. Integrated into comprehensive accounting systems, these software programs encompass various types of applications aimed at facilitating the work of accountants and providing reliable and timely information. Moreover, they offer numerous benefits to business owners, including cost savings, improved data accuracy, enhanced information security, the establishment of financial controls, and consequently, the enhancement of decision-making processes.

The Securities and Exchange Commission (2008) required the submission of reports in XBRL format by the top 500 public companies in the United States of America starting in mid-June 2009 in addition to their traditional files starting from mid-June 2009. However, the SEC did not require these XBRL-formatted reports to be audited by a third party. The only condition was that these reports appear similar to those presented in traditional formats when submitted to the SEC. Additionally, the SEC Committee affirms that the data in the interactive data file submitted to the SEC will be protected from liability regarding non-compliance with the proposed data and related requirements.

### **5.1. Hypothesis testing:**

Through testing the study hypotheses, it was concluded that:

- Accounting software represents the latest advancement in information technology and serves multiple functions and tasks that aid in accounting compared to traditional methods.
- Modern accounting software has become an integral part of all accounting activities, with an increasingly important role for these programs and other emerging information technologies that affect financial reporting more efficiently.
- eXtensible Business Reporting Language (XBRL) is one of the technological advancements in conveying information to various users, playing a significant role in enhancing the quality of accounting information, whether in terms of time, cost, suitability, or reliability for decision-making.

### **5.2. Results of the study:**

Through this study, a set of results were reached that can be summarized as follows:

- Selecting the most suitable accounting software package has become one of the most critical decisions for most companies, given its cost-effectiveness, information reliability, and speed of delivery.



- XBRL has revolutionized how various parties prepare, use, and exchange financial and accounting information. It offers two main advantages to the business community: the ability to prepare and present financial and accounting information in various formats, and the rapid and reliable extraction of such information by lenders, analysts, and investors. Unlike HTML, which is a markup language organizing information into containers.
- The application of eXtensible Business Reporting Language (XBRL) enables data to be analyzed quickly and accurately due to its capacity to organize and classify financial information, facilitating comparisons with other reports. Additionally, it reduces data inconsistency by standardizing terms and symbols, thereby enhancing the transparency and reliability of accounting information.
- The use of XBRL will lower the costs of preparing financial information and increase its accessibility in a timely manner. It also reduces human errors during data processing.

### 5.3. Recommendations:

Based on the results obtained, we suggest the following:

- Conduct training courses and provide academic qualifications for individuals involved in accounting information systems to familiarize them with the latest technological advancements in the accounting field, especially regarding software and their application.
- Provide technical and financial support to encourage companies to adopt eXtensible Business Reporting Language (XBRL), and to issue regulatory rules to oblige companies to use it.
- Develop a strategic plan for transitioning to the application of XBRL to leverage its benefits in achieving quality accounting and financial information that meets the needs of investors and other stakeholders.
- Introduce modern electronic technologies and systems related to the accounting and financial aspects into the curriculum of economics colleges, especially in the accounting department. This is essential for producing graduates who are well-versed in the latest technologies that contribute to the development and enhancement of the accounting profession.

## **6. List of references:**

- Ali Tazdait. (2009). *Mastery of the financial accounting system. 1st Edition ACG.*
- Hammam, M. I. A. (2009). *The Impact of Applying Governance Rules on Accounting Disclosure and Financial Reporting Quality* [Thesis as part of the requirements for the Master's Degree in Accounting and Finance]. Islamic University.
- Hanane, R. Hi. (2009). *Introduction to Accounting Theory, Theoretical Framework - Practical Applications.* Wael Publishing House.
- Khalil, M. A. I. (2007). *The Role of Corporate Governance in Achieving the Quality of Accounting Information and Its Implications on the Stock Market - Theoretical and Applied Study. Journal of Commercial Studies and Research, 1(1).*
- Malhotraa, R., & Garrittb, F. (2004). *Extensible business reporting language: the future of e-commerce-driven accounting. International Journal of Business, 9(1).*
- Marushchak, L., Pavlykivska, O., Liakhovych, G., Vakun, O., & Shveda, N. (2021). *Accounting Software in Modern Business, Advances in Science. Technology and Engineering Systems Journal, 6(1).*
- Matar, M., & Al-Suwaiti, M. (2008). *The Theoretical Foundation of Professional Accounting Practices (2nd Editio).* Wael Publishing House.
- Olubunmi, A., & Festus, A. F. (2020). *Accounting software and quality of corporate reporting in profit oriented companies. , Journal of Applied Sciences, Information, and Computing, 1(2).*
- Said, Y., & Aliu, A. (2022). *The influence of accounting software in achieving the internationala ccounting standard board's qualitative characteristics of financial information. International Journal of Advanced Research (Ijar).*
- Srivastava, R. P. (2009). *XBRL (eXtensible Business Reporting Language): a research perspective. Indian Accounting Review, 13(1).*
- Sulaiman, K. H. M. (2017). *Activating the Role of Using the eXtensible Business Reporting Language (XBRL) in Preparing Sustainability Reports. Alexandria Journal of Accounting Research, 1(1).*