Int. J. Nonlinear Anal. Appl. 16 (2025) 12, 103–117
ISSN: 2008-6822 (electronic)
http://dx.doi.org/10.22075/ijnaa.2024.33477.4990

Identification and ranking the challenges of valuation and reporting of intangible assets after the IFRS implementation in Iraq

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(Communicated by Asadollah Aghajani)

Abstract

Intangible assets are identifiable non-monetary assets without physical nature and under the control of the business entity. Management can analyze the value of intangible assets by examining and evaluating the company and improving operations to increase business value more effectively. This study identified the practical components of measuring and reporting intangible assets among 13 financial experts in Iraq using the analysis hierarchy method (AHP), factor analysis, and structural equations. In other words, this study aimed to find the obstacles and problems in measuring and reporting these assets in Iraqi companies. The results showed a significant relationship between examining obstacles related to international reporting standards in intangible assets and the strategies adopted to solve these challenges. The strength of this relationship varies depending on the particular set of conditions or factors considered. Prioritizing these factors through AHP analysis provides insight into their relative importance in determining which challenges are most critical in the context of Iraq under IFRS. According to the research's third objective, the factors considered more critical regarding challenges in the valuation and reporting of intangible assets in Iraq were highlighted.

Keywords: identification, ranking, valuation challenges, intangible assets reporting, international financial reporting standards of Iraq
2020 MSC: 91G15

1 Introduction

Traditional accounting methods were a good tool for examining a company's financial status and performance before the knowledge age; however, conditions in today's invisible world significantly differ. Modern management styles have been developed in response to global competition, and industrial-era management has replaced knowledge-era leadership. The focus on tangible assets in the industrial age has given way to intangible assets in the knowledge age. As a result, issues related to intangible assets have become important topics of interest for many researchers. With technological advancements and the widespread use of e-commerce in the new era, knowledge-based businesses have emerged, leading to changes in companies' performance measurement criteria due to the emergence of a knowledge-based economy. In the stock market, traditional valuation variables of physical assets have been replaced by creating

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Received: February 2024 *Accepted:* April 2024

intangible knowledge to develop company value. In such cases, intangible assets may constitute a significant portion of a company's value. Therefore, intangible and tangible assets are also considered when evaluating a company. The growing discrepancy between a company's actual and nominal value has prompted experts to examine the value of intangible assets beyond financial statements [2]. Many intangible assets created in business units fail to meet standard criteria due to various identification and recognition issues and remain unidentified. In this regard, International Accounting Standard 38 also addresses accounting behavior guidelines, including recognition criteria, measurement methods, classification, reporting, and disclosure requirements of intangible assets in companies. In this standard, business units must identify an intangible asset only if specific criteria are met. International accounting and financial reporting standards seek to establish unified regulations so that financial statements worldwide are compatible and transparent, and comparability is also achievable [11].

In accounting standards, intangible assets are non-monetary assets lacking a tangible nature. According to the International Financial Reporting Standard (IFRS) 38, an intangible asset is identified when the expected future economic benefits attributable to the asset can be reliably measured to a probable commercial entity, and the asset's fair value can be measured dependably. Providing all relevant information regarding a company's financial events and activities is one of the main objectives of accounting. Financial reports must contain sufficient information, and the disclosure of information should be such that, on the one hand, financial statement users can make informed judgments. On the other hand, they are not misled. Some accounting experts suggest that the high value of stocks relative to book value indicates the presence of unrecorded intangible assets in the company's books and may cause various issues [3].

Accepted banks in the Iraqi Stock Exchange should use the International Financial Reporting Standards (IFRS). Other domestic and foreign companies on the stock exchange can also employ these standards in their financial statements. Due to weaknesses in financial reporting, tax evasion, and pursuit of higher profits, intangible assets do not hold a proper position in Iraqi companies, resulting in significant valuation errors for these companies [16].

The adoption of international standards in various countries faces challenges due to legal and tax systems, economic development level, education level, corporate structure and ownership, religion, culture, history, and language. This leads to challenges in determining the value of some intangible assets and, consequently, their unrecognized importance. Despite reporting frameworks such as international standards, accounting professionals in Iraq face difficulties and ambiguities in the accounting and reporting of intangible assets. Moreover, due to the significance of intangible assets in creating value, setting Iraqi national standards in line with international financial reporting standards is noteworthy because many small and medium-sized enterprises are not obliged to use international standards. Therefore, the current research stems from the issue that, despite the importance of intangible assets [14] and the requirement to comply with international financial reporting standards in Iraq, preliminary evidence suggests that these assets do not have a place in companies' financial statements [19]. This study aimed to identify the influential factors in measuring and reporting intangible assets in Iraq and find obstacles and challenges in valuing and reporting these assets that prevent their reflection in financial reports.

2 Research literature

Hasprová et al. [9] investigated the disclosed intangible assets of the public universities of the Czech Republic to present a new methodology for evaluating the scientific results of the said universities. In this study, the value of scientific results assessed based on the method of the science, research, and innovation department was compared with the figures of intangible assets reported in their financial statements during the years 2008-2022.

Swanson [18] conducted an exploratory analysis of the value of intangible assets created within unregistered companies through systemic transactions. The results showed that the measurement and disclosure of intangible assets created within the company affect the company's value and investors' decision-making.

Fejes [6] investigated the role of intangible assets in the banking industry's value-creation process in their doctoral dissertation. Based on this study, which presents intangible assets within a new conceptual framework, banks cannot function without intangible assets. Senior bank managers know these factors and acknowledge their role in value creation.

Abdull and Hussin [1] compared the accounting treatment of intangible assets in Iraq's accounting system and International Accounting Standard 38. The evidence also demonstrates that despite Iraqi banks being obligated to adopt international financial reporting standards, most banks' accounting practices for disclosing intangible assets do not comply with international standards. Therefore, coordination between the existing accounting system and international standards is necessary.

Salman and Ali [14] examined the impact of adopting international financial reporting standards in Iraq. This study's findings indicate no significant relationship between the transition to international standards and earnings management. This event has had a positive effect on the Value Relevance of earnings.

Hameed et al. [8] investigated the impact of International Financial Reporting Standards on the financial performance of commercial banks in Iraq. The researchers found that Iraqi banks' earnings per share and market value increased significantly after implementing the IFR standards among 66 banks.

Nikkar et al. [12] studied the effect of investment in intangible assets on explaining the impact of financial health and representation problems on the market value of companies listed on the Tehran Stock Exchange. The results showed that appropriate intangible assets help companies achieve successful value creation. Moreover, intangible assets did not significantly impact the payment power and debt ratio on the company's market value.

Eskafi and Heydarpour [5] stated in an article designing a model for implementing International Financial Reporting Standards No. 17 that concepts such as competitive/monopolistic markets, central bank policies, pricing pressure in the insurance industry, alignment of current laws with market needs, leading laws; insurance industry supervision; sanctions; international relations; models and assumptions; and input settings, play an essential role in implementing International Financial Reporting Standards No. 17 in the insurance industry.

Delirian et al. [4] proposed a model for improving the financial reporting of intangible assets based on the opinions of the primary users of these reports. Finally, four components - casual, central, strategic, and consequential - were introduced, among which financial reporting was identified as the intervention variable. A component evident in all components was the usefulness of information for decision-making regarding intangible assets, which was introduced as a central component.

3 Theoretical foundations

3.1 Financial reporting

The attraction of idle savings and their allocation to production units, as well as the provision of facilities for public participation in industrial development and sharing profits from factories, are among the main objectives of the stock exchange in any country. In this regard, the organization can act as a lever in supervising inflation and investor rates by attracting investment in the capital market. This, in turn, depends on a transparent and clear capital market. Market transparency relies on accurate and timely financial reporting by companies listed on the stock exchange. Without such information, users cannot timely identify investment opportunities and risks.

Financial reporting is the end product of the accounting mechanism, and due to its importance for users, especially shareholders, it has experienced a growing trend and has always been of interest to various accounting associations. Before the Securities and Exchange Commission's formation, institutions and commercial units often voluntarily prepared and published financial reports. This voluntary disclosure can be attributed to building public trust, introducing the institution to the public and investors, and ultimately attracting capital and investors. However, financial reporting became an institution's legal obligation after the 1929 crisis and the establishment of the Securities and Exchange Commission in 1933. Regarding the obligations of financial reporting, there are other obligations for financial reporting known as market obligations, including capital market and labor market obligations, in addition to the obligations of the Securities and Exchange Commission. After the Industrial Revolution in Europe, the idea of separating ownership from management (the agency theory) gradually emerged. As a result, owners were always concerned about their investments, and managers also aimed to alleviate the concerns of business owners. Financial reports were provided to keep owners continuously informed about the affairs of these businesses.

This new ownership and management structure increased the scope of accounting responsibility, and the presentation of financial reports became more than just financial statements. Financial reports were a means of communication between companies and their owners.

3.2 International financial reporting standards

International Financial Reporting Standards (IFRS) consist of common rules and practices that promote transparency, uniformity, and understandability of financial statements worldwide and specify how companies should maintain and report their accounts. IFRS was established to create a common accounting language so that the reports and financial statements of companies and even different countries would be transparent and reliable.

IFRS are accounting standards approved by the IFRS Foundation and the International Accounting Standards Board (IASB). All countries can understand financial statements by following these standards, which specify specific methods and procedures for describing companies' financial performance and position. International accounting standards are significant for reporting international companies, but they also make auditing work in companies in a country easier. Therefore, many countries have adopted and used them as their national standard. IFRS reporting standards are designed to standardize accounting language methods and procedures and assist businesses and investors in conducting financial analysis and decision-making, especially in international companies. IFRS standards promote transparency, accountability, and efficiency in financial markets worldwide and aim to build trust, growth, and long-term financial stability in the global economy.

3.3 Intangible assets

Intangible assets are a group of long-term assets that lack physical nature with rights and privileges that a business entity may benefit from in current and future periods. Examples of intangible assets include copyrights, patents, trademarks, and goodwill. The cost of an intangible asset is recorded as a debit to an asset account. The usefulness of intangible assets is not due to their nature but because they possess rights and privileges. The total cost of various intangible assets is displayed in the balance sheet under the heading of intangible assets. The primary advantage of intangible assets is their ease of transferability [15]. The definition of intangible assets according to International Standard No. 38 is identifiable, control over resources, and the existence of future economic benefits. When an item within the scope of this standard does not meet the definition of an intangible asset, its acquisition costs or construction costs are recognized as expenses immediately upon occurrence.

Until the 1980s, the value of a company largely depended on its tangible assets, such as buildings and machinery. However, since the mid-1980s, the value of a company has become dependent on its intangible assets, including innovation, technology, human resources, and skills. Owners and managers have always believed that the key to a company's success lies in acquiring tangible assets, but they have also realized the value and importance of intangible assets. Today, the most significant parts of an organization are intangible, encompassing approximately half of the market value of large industrial and service companies.

There is no consensus on the definition of intangible assets, but identifying intangible items as a whole or in general is possible and may pose some challenges, especially when precisely defining a particular aspect. Nevertheless, there is agreement on some of the key characteristics of intangible items. Intangible items lack physical nature; they are non-monetary resources that may have potential economic benefits to the business unit; they likely have a finite life and market value separate from the business unit; and the company has acquired them through past exchanges or events and/or controls them. The term "intangible" covers various complementary concepts, leading to phrases such as intangible investments and intangible assets, which, despite differences in form, share similarities in nature. Hunter and Webster demonstrated that intangibles relate to assets without physical substance and refer to assets preserved by companies for future profitability. International Accounting Standard 38 defines intangible assets as follows in providing a clear definition of intangible assets "An intangible asset is a non-monetary asset identifiable without physical substance that is held for use in the production or supply of goods or services, for rental to others, or administrative purposes." Iranian Accounting Standard No. 17 also defines intangible assets as "a non-monetary asset identifiable without physical substance that is held for use in the production or supply of goods and services or for rental for administrative purposes."

An examination of Iraqi companies' financial statements reveals whether intangible assets are reflected under international financial reporting standards. According to accounting laws and regulations, valuable assets such as intellectual capital, trademarks, and research and development expenditures are not reported in financial statements, which raises the question of what obstacles and challenges exist in measuring and reporting these assets in Iraqi companies.

4 Methodology

This qualitative and applied study investigated the issues of valuation and reporting of intangible assets. The study's statistical population includes financial experts in the field of intangible assets in Iraq. To this end, the following conditions are considered for selecting experts:

1. Certified accountants and professional experts with more than ten years of experience,
2. Faculty members of state universities with research experience in the measurement and reporting of intangible assets,

3. Senior managers of banks and companies listed on the Iraq Stock Exchange.

In the present research, a semi-structured interview method has also been utilized to answer questions containing several prompts about the variables under study from the target population. These prompts are constructed using specific techniques and scales to collect the desired information from the population or study sample. The research questionnaire is structured and consists of two main sections. The first section includes demographic information related to the sample, and the second section contains the main research questions for exploring the variables.

The following criteria have been employed to assess the reliability of this research:

- The interviews in this research are based on a guide or protocol and conducted with different interviewees.
- The research interviews were conducted separately by two researchers but simultaneously, and the researchers' findings were compared.
- Audio recording was used to document the interview data accurately.
- Two coders were used to control the results, code the data, and interpret it to avoid misinterpretations.
- The interviewees reviewed the interview results, and the supervising professors and advisors controlled the results.

A higher degree of agreement among evaluators or judges on whether a given item is "essential or useful" increases content validity. Lawshe devised the following equation to measure content credibility, which is called the content credibility ratio, using this assumption. Therefore, content validity is a structural feature of the measurement tool that is woven into it at the same time as the test is developed, which is calculated through the following equation:

Equation (4.1). Content validity ratio

$$CVR = \frac{\left(n_e - \frac{N}{2}\right)}{\frac{N}{2}} \tag{4.1}$$

- CVR : Content Credit Ratio
- n_e : is the number of evaluators or judges who consider the target item essential or useful
- N : total number of evaluators or judges.

The validity of the content of this questionnaire has been confirmed by reading books and articles related to research, preparing necessary information items, and applying corrective comments. Then, the questionnaires were administered to ... professors and doctoral students to evaluate the content validity of the research questionnaire, which is a tool for data collection in the quantitative phase.

4.1 Content validity index

The content validity index is the average CVR value of the remaining items in the validated model, test, or tool. CVI represents the comprehensiveness of judgments about the validity or applicability of the final model, test, or tool. The higher the final content validity, the CVI value tends to be 0.99, and the opposite is also true.

The value of the content validity index (CVI) is obtained using the following equation:

Equation (4.2). Validity index equation

$$CVI = \frac{\text{Total experts who rated 3 or 4}}{\text{Total experts}} \tag{4.2}$$

First, the variance of the scores of each subset of questions in the questionnaire (or subtest) and the total variance should be calculated to calculate Cronbach's alpha coefficient. Then, the value of the alpha coefficient is calculated using the following equation.

Equation (4.3). Cronbach's alpha

$$r_a = \frac{J}{J-1}\left(1 - \frac{\sum S_j^2}{S^2}\right) \tag{4.3}$$

J : Number of questions

S_j^2 = J-th subtest variance

S^2= total test variance

The closer the percentage is to 100%, the more reliable the questionnaire is. An alpha coefficient of less than 60% is usually considered weak. A range of 70% is considered acceptable, and more than 80% is considered good. The closer the confidence coefficient is to one, the better.

On the other hand, the reliability test is vital to ensure reliability in qualitative research. Although conducting good qualitative studies can be achieved through reliability assessment in qualitative research, the reliability of a research report is at the center of issues such as reliability. Therefore, everything mentioned about ensuring the reliability of the research in the part related to validity in the qualitative phase is also valid for ensuring the reliability of the research in the qualitative phase. This research used the analysis hierarchy method (AHP), factor analysis, and structural equations for data analysis.

$$Q = \frac{k(k-1)\sum_{j=1}^{k}(x_i - T)}{K\sum x_k - \sum x_k^2} \tag{4.4}$$

Q is the symbol of Cochran's test, K presents the number of groups, replicates, or measures, $\sum$ denotes a plus sign and indicates that the values after it should be added together, x_i shows the sum of the values of each group or repetition or measure (column sum), and T indicates the average of all groups, which is obtained by dividing the sum of x_k or the sum of row values by the number of groups (K).

An effective way to overcome this problem is to use Pairwise Comparison, which allows comparing two options at any time. In this method, the main problem is divided into several smaller problems.

Pairwise comparisons are done in the form of a pairwise comparison matrix, which is defined as follows:

$$A = \begin{pmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{n1} & a_{n2} & \cdots & a_{nn} \end{pmatrix} \tag{4.5}$$

According to the clock theory, each matrix row represents the approximate ratio between two weights.

$$a_{ij} \approx \frac{w_i}{w_j} \qquad \forall i, j \tag{4.6}$$

When the matrices of the matrix exactly represent the ratio between the weights, the matrix A is visible in the following form.

$$A = (w_i/w_j)_{n\times n} = \begin{pmatrix} w_1/w_1 & w_1/w_2 & \cdots & w_1/w_n \\ w_2/w_1 & w_2/w_2 & \cdots & w_2/w_n \\ \vdots & \vdots & \ddots & \vdots \\ w_n/w_1 & w_n/w_2 & \cdots & w_n/w_n \end{pmatrix} \tag{4.7}$$

The third matrix is obtained by considering the two mentioned matrices so that b and matrix A can be expressed in the following simple and rewritten form.

$$A = \begin{pmatrix} 1 & a_{12} & \cdots & a_{1n} \\ \frac{1}{a_{21}} & 1 & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ \frac{1}{a_{1n}} & \frac{1}{a_{2n}} & \cdots & 1 \end{pmatrix} \tag{4.8}$$

$$A = \begin{array}{c} \\ X_1 \\ X_2 \\ X_3 \end{array} \begin{array}{c} \begin{array}{ccc} X_1 & X_2 & X_3 \end{array} \\ \begin{pmatrix} 1 & 3 & 6 \\ 1/3 & 1 & 2 \\ 1/6 & 1/2 & 1 \end{pmatrix} \end{array}$$

4.2 Validity-Fornell-Larcker

A measure based on the Average Variance Extracted (AVE) square root can be used to assess the discriminant validity of current constructs [7]. The results indicate that the square root of AVE for each construct is greater than the correlations among the constructs, demonstrating discriminant validity. Another method to assess discriminant validity is cross-loadings using the Fornell and Larcker approach. According to Hair et al. [7], each item of a construct should have a stronger loading on its respective construct compared to other constructs.

4.3 Factor analysis

One method for selecting appropriate variables in factor analysis is using correlation matrices. Since factor analysis relies on the correlation between variables but assumes non-normality, the correlation matrix among variables is computed in this method. This matrix, by showing the degree of relationship between variables, leads to the formation of clusters, where variables within each cluster correlate. However, there is no correlation between variables in different clusters.

Researchers also use the Kaiser-Meyer-Olkin (KMO) test to determine the suitability of data for factor analysis. This statistic always ranges between 0 and 1. If the value is less than 0.5, the data are unsuitable for factor analysis. Factor analysis can be cautiously conducted when the value falls between 0.5 and 0.69. Finally, if the value exceeds 0.7, it can be concluded that the existing correlations among the data are suitable for factor analysis.

Some researchers are faced with a large number of variables for various reasons. The researcher seeks to reduce the number of variables and form a new structure for them. For this purpose, he uses the factor analysis method for more accurate analysis and to reach more scientific and, at the same time, more operational results.

The first work on factor analysis was done by Charles Spearman [17], the "father" of this method. Then, Karl Pearson [13] proposed the "principal axes" method and Hotelling [10] developed it more thoroughly.

The goal is to identify these unobservable factors based on observable variables. The factor is a new variable that is estimated by a linear combination of the leading scores of the observed variables based on the following equation:

$$F_j = \sum W_{ji} X_i = W_{j1} X_1 + W_{j2} X_2 + ... + W_{jp} X_p \tag{4.9}$$

where W presents factor score coefficients, and P represents the number of variables.

It is possible to capture almost all the information obtained by a more extensive set of variables and, as a result, to simplify the description of the characteristics of each observation with a small number of these factors (linear combinations of the leading scores of the observed variables).

5 Data analysis

5.1 Description of research samples

An in-depth interview was conducted with 13 experts in the research topic field, which reached theoretical saturation from the 11th person onwards. The interviews were audio-recorded, textually coded, and analyzed after being implemented on paper. The characteristics of the interviewees are described in Table 1.

Table 1: Personal characteristics of the interviewees

Interviewee	Gender	Age	Level of Education	Level of experience
Interviewee 1	Male	45	PhD in Accounting	20 years of accounting
Interviewee 2	Female	38	Master of Finance	12 years in finance
Interviewee 3	Male	50	MBA Management	25 years of management
Interviewee 4	Female	42	PhD in economics	15 years in the economy
Interviewee 5	Male	55	Bachelor of Accounting	30 years of accounting
Interviewee 6	Female	36	Master of Business Administration	10 years of management
Interviewee 7	Male	48	PhD in finance	18 years in finance
Interviewee 8	Female	40	Accounting MBA	14 years of accounting
Interviewee 9	Male	52	Master of Economics	22 years in the economy
Interviewee 10	Female	34	Bachelor of Finance	Eight years in finance
Interviewee 11	Male	47	PhD in management	20 years of management
Interviewee 12	Female	39	MBA in Finance	13 years in finance
Interviewee 13	Male	44	Master of Accountancy	16 years of accounting

Personal characteristics provide an overview of the diversity and expertise of the interviewees and ensure a comprehensive exploration of the research topic. The inclusion of people with educational backgrounds, ages, and extensive experience in relevant fields helped to enrich the insights gained during the interviews. The data obtained from the interviews was compiled using the database method in three stages: open coding, central coding, and selective coding, the details of which are mentioned below.

1. Open coding of data
   The researcher identifies hidden concepts in the first open coding stage by reviewing the collected data set. The researcher names the concepts with an open mind and does not set any limits for determining the codes. A part of the open codes extracted from the interviews is shown in the table below.

Table 2: The result of open coding of a part of an interview sample

Interview	**Open codes extracted from interviews**
Interview 1	lack of awareness of the role of intangible assets in business performance; Adequate training and communication on intangible asset reporting; Challenges related to the impact of intangible assets on financial results
Interview 2	Limited participation and interest of investors and analysts in intangible reporting; non-standard reporting of fair value changes in intangible assets; Difficulty tracking and comparing fair value adjustments across periods
Interview 3	Variability in recognizing impairment or increase in value of intangible assets; concerns about the reliability of fair value assessments for intangible assets; The challenge in understanding the causes of fair value fluctuations
Interview 4	The difference between the book value and the market value of intangible assets: Difficulty aligning reported values with economic reality

   These open codes represent the key topics and challenges identified through interviews with experts in this field. As observed, the open codes are part of four samples of interviews where multiple open codes were generated, which will be further categorized in the subsequent axial coding process. Open coding yielded 1,248 open codes, reduced to 873 unique codes after eliminating common codes. Subsequently, axial coding, along with open codes, is presented.
2. Axial Coding
   Axial coding is the second stage of data-driven analysis in grounded theory. In axial coding, codes generated in the previous step are rewritten using a new method to establish relationships between codes. Axial coding creates groups and concepts; all similar codes are placed within their specific group. For this purpose, all generated codes were reviewed again and compared with texts to ensure no content was overlooked. Several open codes could be merged into one axial code in this process. In this stage, 642 open codes extracted from interviews were transformed into 252 axial codes. Table 3 provides part of the axial coding results. (Detailed results of axial coding are fully presented in the thesis due to the volume constraints of this article.)

Table 3: Axial coding of open codes extracted from the interviews

Axial code	**Open code**
Lack of standard measurement techniques for different types of intangible assets	Various categories of intangible assets and their unique valuation methods
	Lack of consistent measurement guidelines across industries
	Difficulty in choosing appropriate criteria to evaluate intangible assets
	Inconsistent approaches to quantify the value of different intangible assets
Variability in the methods used to measure the fair value of intangible assets	A wide range of valuation methods applied by different organizations
	Disagreement on the most accurate fair value measurement approach
	Reliance on subjective judgments in determining fair value
	Conflicting interpretations of fair value principles for intangible assets
Challenges in quantifying the future economic benefits of intangible assets	Uncertainty about predicting future cash flows
	Difficulty in estimating expected income streams from intangible assets
	Limited historical data to predict the performance of intangible assets
	Complexity in evaluating the potential economic benefits of intangible assets

3. Selective coding
   After all the data were recorded as mentioned and centralized, it was time to categorize them. Indeed, fundamental theory development aims to generate theory rather than merely describe phenomena. To convert analyses into theory, categories need to be systematically related. Selective coding based on the results of the previous two stages of coding is the main stage of theoretical development. However, in this stage, referring to the theoretical literature greatly aids in refining the categorization. After analyzing and revising the core codes, they were identified.

The Strauss and Corbin model includes various steps and elements for systematically analyzing challenges and factors affecting the identification and ranking of intangible asset valuation and reporting challenges after implementing

Table 4: Selective coding of core codes resulting from interviews

Axial code	**Open code**
Ability to measure intangible assets	Absence of standard measurement techniques for different types of intangible assets
	Variability in the methods used to measure the fair value of intangible assets
	The challenge in quantifying the future economic benefits of intangible assets
	Lack of universally accepted criteria for the valuation of intangible assets
	Difficulty in assessing the reliability of estimates used in the measurement of intangible assets
	Differences in measurement approaches between tangible and intangible assets
	The challenge in determining appropriate discount rates for evaluating intangible assets
Reporting and evaluation of intangible assets	The challenge in matching the book value of intangible assets with market values
	Limited understanding of the importance of reporting intangible assets among stakeholders
	Issues related to impairment test and identification of intangible assets
	Contradictory disclosure of changes in fair value of intangible assets over time
	Lack of transparency in reporting the methods used to value intangible assets
	Different reporting practices among companies in Iraq regarding intangible assets

international financial reporting standards in Iraq. In selective coding, the necessary conditions based on Strauss and Corbin's model have been determined as follows with the help of 37 codes and 248 concepts extracted from the interviews:

1. Causal conditions include:
   (a) Ability to measure intangible assets
   (b) Reporting and evaluation of intangible assets
   (c) Lack of clear guidelines for evaluating and reporting intangible assets
   (d) Difficulty in identifying and defining intangible assets
   (e) Lack of expertise in evaluating and reporting intangible assets
   (f) Insufficient disclosure of information about intangible assets
   (g) Limited comparability of intangible assets across companies and different industries
   (h) Failure to identify domestically produced intangible assets
   (i) Difficulty in determining the useful life of intangible assets
   (j) Lack of awareness and understanding of the importance of intangible assets in financial reporting
2. Background conditions include:
   (a) Economic factors (such as inflation and exchange rates)
   (b) Legal factors (e.g., lack of specific guidelines)
   (c) Company-specific factors (e.g., type and nature of intangible assets)
      - **Note:** The type and nature of intangible assets may affect their valuation. Measuring or identifying some assets may be more challenging than others.
   (d) Expertise in evaluating and reporting intangible assets
   (e) Level of disclosure of information related to intangible assets
   (f) Comparability of intangible assets across companies and industries
   (g) Identification of domestically produced intangible assets
3. Interventionist conditions include:
   (a) Cultural-temporal-spatial factors
   (b) Historical and political background
   (c) Level of economic development
   (d) Training of accounting professionals
   (e) Technological infrastructure
   (f) Government regulation and supervision of financial reporting
   (g) Competition and market forces
   (h) Availability of data and information on intangible assets
4. Strategies include:
   (a) Clear guidelines and standards for measuring and reporting intangible assets.
   (b) Training accounting professionals in evaluating and reporting intangible assets.
   (c) Encouraging companies to disclose more information about their intangible assets to improve transparency.
   (d) Establishing a framework for identifying and valuing domestically produced intangible assets.
   (e) Improving the comparability of intangible assets among companies and industries.

(f) Encouraging the use of technology to collect data and report intangible assets to overcome challenges in evaluation and reporting.
(g) Effectiveness of regulations and government supervision of financial reporting as a strategy to address challenges in evaluating and reporting intangible assets in Iraq after implementing international financial reporting standards.
(h) Considering various stakeholders (companies, investors, regulators, etc.) and balancing regulatory enforcement and industry self-regulation when evaluating unreported assets.

5. Consequences include:
(a) Prioritizing qualitative features of financial reporting for accuracy and transparency.
(b) Understanding the relationship and relevance of intangible assets in financial reporting.
(c) Improving the quality of accounting information through standards related to intangible asset depreciation.
(d) Understanding the factors affecting the adoption of international financial reporting standards.
(e) Examining the contribution of visible and invisible resources to company performance.
(f) Identifying and managing intellectual capital in practice.
(g) Identifying insufficient information affecting the evaluation and reporting of intangible assets.
(h) Clear guidelines and standards for measuring and reporting assets should be developed.
(i) Providing training and education for accounting professionals on evaluating and reporting intangible assets.
(j) Encouraging companies to disclose more information about their intangible assets to improve transparency.
(k) Increasing regulations and government oversight of financial reporting for accuracy and transparency.

5.2 Prioritizing the challenges of valuation and reporting of intangible assets after the implementation of international financial reporting standards

Table 5: Personal characteristics of the interviewees

Interviewee	Level of Education	Level of experience
Interviewee 1	PhD in Accounting	20 years of accounting
Interviewee 2	Master of Finance	12 years in finance
Interviewee 3	MBA Management	25 years of management
Interviewee 4	PhD in economics	15 years in the economy
Interviewee 5	Bachelor of Accounting	30 years of accounting
Interviewee 6	Master of Business Administration	10 years of management
Interviewee 7	PhD in finance	18 years in finance
Interviewee 8	Accounting MBA	14 years of accounting
Interviewee 9	Master of Economics	22 years in the economy
Interviewee 10	Bachelor of Finance	Eight years in finance
Interviewee 11	PhD in management	20 years of management
Interviewee 12	MBA in Finance	13 years in finance
Interviewee 13	Master of Accountancy	16 years of accounting

At this stage, the research proceeds with a primarily confirmatory analysis method following the confirmation of the conceptual model. Pairwise comparisons of the challenges of valuation and reporting of intangible assets after adopting International Financial Reporting Standards (IFRS) are made using a specialized panel of 12 experts (comprising a panel of 12 specialists knowledgeable in financial reporting and intangible assets). The Analytic Hierarchy Process (AHP) is a valuable tool for prioritizing factors in decision-making. Table 6 also illustrates the prioritization of factors in each group:

1. Casual Conditions:
In this section, AHP analysis prioritizes the underlying conditions related to the challenges of valuation and reporting of intangible assets after adopting International Financial Reporting Standards in Iraq.

Table 6: Ranking of identified underlying factors in the challenges of valuation and reporting of intangible assets after the adoption of international financial reporting standards

Priority of invoices	Score
(b) Reporting and evaluation of intangible assets	0.224
(i) Difficulty in determining the useful life of intangible assets	0.195
(f) Inadequate disclosure of information about intangible assets	0.169
(g) Limited comparability of intangible assets in different companies and industries	0.141
(e) Lack of expertise in evaluating and reporting intangible assets	0.088
(c) lack of specific guidelines for evaluating and reporting intangible assets	0.066
(d) Difficulty in identifying and defining intangible assets	0.061
(a) Ability to measure intangible assets	0.034
(h) Non-identification of internally produced intangible assets	0.032
(j) Lack of awareness and understanding of the importance of intangible assets in financial reporting	0.009

The results of the AHP analysis indicated that "valuation and reporting of intangible assets" have received the highest priority score of 0.224, demonstrating its perceived significance as the most influential causal condition in challenges. In contrast, "lack of awareness and understanding of the importance of intangible assets in financial reporting" obtained the lowest priority score of 0.009, indicating its lesser impact within the study framework.

2. Contextual Conditions:
In this section, the AHP analysis prioritizes the ranking of background conditions related to the challenges of valuing and reporting intangible assets following the adoption of International Financial Reporting Standards in Iraq.

Table 7: Ranking of identified background factors for challenges in valuing and reporting intangible assets after the implementation of international financial reporting standards

Priority of invoices	**Score**
b) Legal factors (e.g., lack of specific guidelines)	0.269
f) The possibility of comparing intangible assets in different companies and industries	0.213
e) The level of information disclosure related to intangible assets	0.200
c) Company-specific factors (for example, the type and nature of intangible assets)	0.150
a) Economic factors (for example, inflation, exchange rate)	0.093
d) Expertise in evaluating and reporting intangible assets	0.050
g) Identification of intangible assets of domestic production	0.025

AHP analysis indicated that "legal factors (e.g., lack of specific guidelines)" received the highest priority score of 0.269, suggesting that they are perceived as the most influential condition affecting the challenges. Subsequently, "comparability of intangible assets across companies and different industries" was ranked with a priority score of 0.213. These findings suggested that the study context considers legal factors and comparability-related aspects significant.

3. Intervening Conditions:
In this section, the AHP analysis prioritizes the intervention conditions related to the challenges of valuing and reporting intangible assets following the adoption of the International Financial Reporting Standards (IFRS) in Iraq.

Table 8: Ranking of identified intervention factors for addressing challenges in valuing and reporting intangible assets after the implementation of International Financial Reporting Standards

Priority of invoices	**Score**
c) Level of economic development	0.215
h) Availability of data and information about intangible assets	0.205
d) Training accounting professionals	0.189
e) Technology infrastructure	0.161
b) Historical and political background	0.086
a) Cultural-temporal-spatial factors	0.083
f) Government regulations and supervision of financial reporting	0.061
g) Competition and market forces	0.001

AHP showed that the "level of economic development" received the highest priority score of 0.215, which is considered the intervention's most influential condition that affected the challenges. "Availability of data and information about intangible assets" is a priority with a score of 0.205. These findings indicated that economic development and data availability are considered essential factors in the field of study.

4. Strategies
AHP analysis prioritizes strategies in the challenges of valuation and reporting of intangible assets after adopting international financial reporting standards in Iraq.

Table 9: Ranking of identified strategic factors of intangible assets valuation and reporting challenges after the implementation of international financial reporting standards

Priority of invoices	**Score**
a) Clear guidelines and standards for measuring and reporting intangible assets	0.225
c) Encouraging companies to disclose more information about their intangible assets to improve transparency	0.187
e) Improving the comparability of intangible assets among companies and industries	0.151
b) Training of accounting professionals in the field of evaluation and reporting of intangible assets	0.143
f) Technology should be encouraged to collect data and report intangible assets to overcome the challenges of assessing and reporting intangible assets.	0.119

g) The effectiveness of government regulations and supervision on financial reporting as a strategy to address the challenges of evaluating and reporting intangible assets in Iraq after implementing international financial reporting standards.	0.090
h) considering the various stakeholders involved (companies, investors, regulators, etc.), balancing regulatory enforcement and industry self-regulation when dealing with the valuation of intangible reporting assets;	0.085
d) Creating a framework for identifying and valuing intangible assets of domestic production	0.000

The results of the AHP analysis indicate that "Clear guidelines and standards for measuring and reporting intangible assets" have received the highest priority score of 0.225, suggesting that it is perceived as the most effective strategic factor in addressing challenges. Furthermore, the following is closely followed: "Encouraging companies to disclose more information about their intangible assets to improve transparency" with a priority score of 0.187. These findings suggest that having clear guidelines and enhancing transparency through corporate disclosure are vital strategies.

5. Implications
In this section, the AHP analysis prioritizes the consequences, focusing on the challenges of valuing and reporting intangible assets after adopting international financial reporting standards in Iraq.

Table 10: Ranking of identified consequential factors for challenges in valuing and reporting intangible assets after the implementation of international financial reporting standards

Priority of invoices	**Score**
b) Understanding the relevance and capability of intangible assets in financial reporting	0.221
a) prioritizing the qualitative features of financial reporting for accuracy and transparency	0.216
c) Improving the quality of accounting information through standards related to depreciation of intangible assets	0.155
e) Examining the contribution of tangible and intangible resources to the company's performance	0.142
h) Developing clear guidelines and standards for measuring and reporting assets	0.122
j) Encouraging companies to disclose more information about their intangible assets to improve transparency	0.084
g) Identifying insufficient information affecting the evaluation and reporting of intangible assets	0.034
i) Providing education and training for accounting professionals on the valuation and reporting of intangible assets	0.030
d) Knowing the influential factors in accepting international financial reporting standards	0.022
f) Investigating the identification and management of intellectual capital in practice	0.017
k) Increasing regulations and government supervision on financial reporting for accuracy and transparency	0.019

Analytic Hierarchy Process (AHP) analysis indicated that "Understanding the relevance and capability of intangible assets in financial reporting" received the highest priority score of 0.221, suggesting it is perceived as the most significant determinant. Furthermore, "Prioritization of qualitative characteristics of financial reporting for accuracy and transparency" closely followed with a priority score of 0.216. These findings suggested that the perception of the relevance of intangible assets and enhancing the quality of financial reporting are considered significant outcomes.

The conceptual framework of this research is as follows:

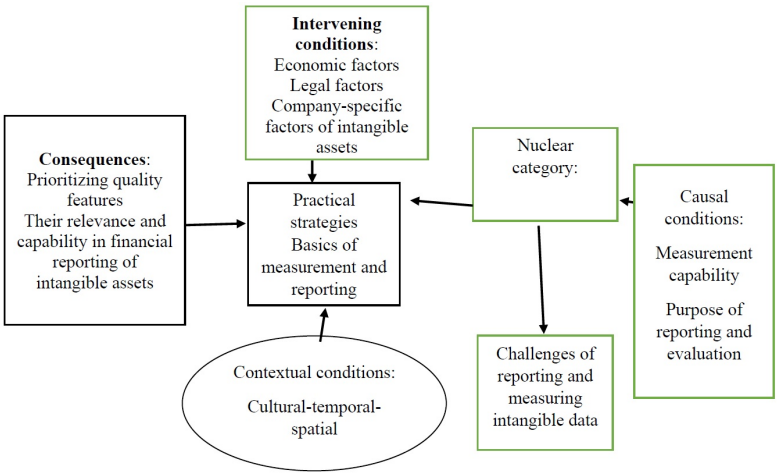

Figure 1: The conceptual framework

6 Conclusion

Identification of Influential Components in Measuring and Reporting Intangible Assets in Iraq

How are the components identified for measuring and reporting intangible assets in Iraq? Corresponding questions and answers were developed.

The components and factors proposed in the Strauss and Corbin model were extracted to address this research question. The model categorized these components into causal conditions, intervening conditions, strategies, and consequences.

Causal Conditions: These factors directly impact the measurement and reporting of intangible assets in Iraq. The ability to measure intangible assets, report and evaluate intangible assets, lack of specific guidelines for evaluation and reporting, difficulty in identifying and defining intangible assets, lack of expertise in assessing and reporting intangible assets, insufficient disclosure of information about intangible assets, limited comparability of intangible assets, lack of recognition of domestically produced intangible assets, difficulty in determining the useful life of intangible assets, and unawareness and understanding of the importance of intangible assets in financial reporting.

Background Conditions: These broader background conditions determine where intangible asset measurement and reporting occur. They include economic factors such as inflation and exchange rates, legal factors such as the absence of specific guidelines, specific factors of companies influenced by the nature and type of intangible assets, expertise in evaluation and reporting, levels of information disclosure, comparability of intangible assets, and identification of domestically produced intangible assets.

Intervening Conditions: These factors mediate between causal and background conditions and can influence the measurement and reporting of intangible assets. These factors include cultural, temporal, and spatial factors, historical and political backgrounds, levels of economic development, specialized accounting education, technological infrastructure, government regulations and oversight, market competition, and the availability of data and information about intangible assets.

Strategies: Strategies are proactive approaches to address challenges arising from causal, background, and intervening conditions. They include clear guidelines and standards for measuring and reporting intangible assets, specialized accounting education in this field, encouraging companies to disclose more information about their intangible assets for transparency, establishing frameworks for identifying and valuing domestically produced intangible assets, improving comparability between companies and industries, promoting the use of technology for data collection and reporting, and enhancing the effectiveness of government regulations and oversight in financial reporting.

Consequences: These are the expected results of implementing strategies. They include prioritizing qualitative features of financial reporting for accuracy and transparency, understanding the relationship and significance of intangible assets in financial reporting, improving the quality of accounting information through standards related to intangible asset depreciation, understanding factors affecting the adoption of international financial reporting standards, examining the contribution of visible and invisible resources to company performance, identifying and managing intellectual capital, identifying effective informational gaps in evaluating and reporting intangible assets, and developing clear guidelines and standards for measuring and reporting assets.

Prioritization of obstacles to the measurement and reporting challenges of intangible assets in Iraq

How are obstacles prioritized in the measurement and reporting of challenges of intangible assets in Iraq? The relevant questions were addressed.

Accordingly, the Analytic Hierarchy Process (AHP) analysis findings were analyzed, prioritizing various factors related to the valuation and reporting challenges of intangible assets after implementing the International Financial Reporting Standards (IFRS) in Iraq. The key findings of the AHP analysis are as follows:

1. **Causal conditions:** The most crucial causal condition identified in the AHP analysis is "reporting and evaluating intangible assets," with a priority score of 0.224. This condition is considered the most significant factor in assessing and reporting intangible assets. Other factors, such as "difficulty in determining the useful life of intangible assets" and "lack of disclosure of information about intangible assets," also have significant priority scores.
2. **Contextual conditions:** Among the background conditions, "legal factors (e.g., lack of specific guidelines)" received the highest priority score of 0.269, indicating its importance in influencing the challenges. "Comparability of intangible assets across different companies and industries," with a score of 0.213, ranks second in priority.

3. **Intervening conditions:** In the category of intervention conditions, "level of economic development," with a priority score of 0.215, is the most influential factor. This indicates that the level of economic development plays a significant role in shaping the challenges related to assessing and reporting intangible assets. "Availability of data and information about intangible assets" with a priority score of 0.205 closely follows.
4. **Strategies:** Among the identified strategies, "clear guidelines and standards for measuring and reporting intangible assets" with a priority score of 0.225 ranks highest. This indicates that having clear standards is vital to address the challenges. "Encouraging companies to disclose more information about their intangible assets to improve transparency" is the second important strategy, with a score of 0.187.
5. **Consequences:** In the realm of consequences, "understanding the relevance and usability of intangible assets in financial reporting" obtained the highest priority score of 0.221. This shows that recognizing the importance of intangible assets in financial reporting is a significant consequence. "Prioritizing qualitative features of financial reporting for accuracy and transparency," with a score of 0.216, closely follows.

Overall, prioritizing these factors through AHP analysis provides insights into their relative importance. This prioritization helps determine which intangible asset valuation and reporting challenges are more critical in Iraq under IFRS. In other words, it highlights the factors considered vital in addressing the challenges in valuing and reporting intangible assets in Iraq.

Research limitations

1. According to the researcher, one of the limitations of any qualitative study can be the researcher's biases and personal inclinations. Since qualitative research requires data interpretation, it may (even unintentionally) influence his interpretations. In the present study, the researcher has endeavored to analyze and present the data impartially; however, the nature of qualitative research is such that the researcher's biases and inclinations may influence it. This potential influence (which may even be unconscious) can be considered one of the limitations of any qualitative study.
2. One of the significant limitations of this study is the research context. This research was conducted through interviews with Iraqi evaluators and experts. The theories developed are based on the theoretical foundation method, based on the perspectives and views of the participants in that research. In this study, the opinions and perspectives of the participants reflect the background of social and cultural accounting and their personal experiences in the developing country rather than the developed one.

Practical recommendations based on research findings

Based on the research findings and insights, strategies and practical recommendations are proposed for improving the valuation and reporting of intangible assets in Iraq. These include:

1. **Advanced Guidelines:** Comprehensive and specific guidelines for measuring and reporting intangible assets in Iraq should be prepared to address the lack of clear standards.
2. **Professional Training:** Investment should be made in training and development programs for accounting professionals to effectively enhance their expertise in evaluating and reporting intangible assets.
3. **Transparency Initiatives:** Encourage companies to increase transparency by disclosing more information about their intangible assets in financial reports.
4. **Internal Intangible Asset Framework:** Establish a framework for identifying, valuing, and reporting internally generated intangible assets to improve their recognition.
5. **Comparative Capability Enhancement:** Work on improving the comparability of intangible assets among companies and industries in Iraq to facilitate benchmarks.
6. **Technology Adoption:** Promote the use of technology in data collection and reporting of intangible assets to enhance accuracy and efficiency.
7. **Regulation Strengthening:** Strengthen government regulations and oversight of financial reporting to ensure accuracy and transparency.

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