Analysis of XBRL implementation: The potential for improving the quality of financial reporting for Algerian organizations

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Abstract:

This paper discusses the necessity of the eXtensible Business Reporting Language (XBRL) and how it improves the quality of financial reporting in order to increase the awareness of Algerian regulators about the need to integrate this new technology into the accounting disclosure process. The research relies mainly on the descriptive analytic approach, and it included two main parts, starting with an overview of XBRL; finishing with proposals about the implementation of XBRL in Algeria. The results of this study revealed that reporting with XBRL creates a number of internal and external benefits, such as greater transparency, validation, accessibility, and availability. Because of this, there is a great need to integrate this language into the financial reports of Algerian organizations. In light of these results, it was suggested that there should be collaboration between regulators and professional organizations for adequate introduction and good training in this language and work to provide the necessary ingredients for its integration and activation.

Keywords: XBRL, financial reporting, electronic disclosure, Financial Accounting System, Algerian organizations.

Jel Classification Codes : M40, M41, M48.

Résumé:

Cet article discute de la nécessité de l'eXtensible Business Reporting Language (XBRL) et de la manière dont il améliore la qualité de l'information financière afin de sensibiliser les régulateurs algériens à la nécessité d'intégrer cette nouvelle technologie dans le processus de divulgation comptable. La recherche s'appuie principalement sur l'approche analytique descriptive et comprenait deux parties principales, en commençant par un aperçu de XBRL ; en terminant par des propositions sur la mise en place de XBRL en Algérie. Les résultats de cette étude ont révélé que le reporting avec XBRL crée un certain nombre d'avantages internes et externes, tels qu'une plus grande transparence, validation, accessibilité et disponibilité. Pour cette raison, il y a un grand besoin d'intégrer cette langue dans les rapports financiers des entreprises algériennes. À la lumière de ces résultats, il a été suggéré qu'il devrait y avoir une collaboration entre les régulateurs et les organisations professionnelles pour une introduction adéquate et une bonne formation dans cette langue et un travail pour fournir les ingrédients nécessaires à son intégration et son activation.

Mots clés: XBRL, rapports financiers, divulgation électroniques, Système Comptable Financier, entreprises algériennes.

Jel Classification Codes : M40, M41, M48.

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I. Introduction

Since the expansion of information technology (IT), communication between organizations and the outside world has been continuously developing. Due to the advantages of the Internet, including features like low costs and international reach, organizations have been able to report their financial performances in a new manner. In view of the different methods of preparing and publishing financial reports electronically, there are many methods of electronic disclosure, as many companies have realized the need to take advantage of the enormous potential of the Internet in the speed of information spread. Companies publish their financial reports via the Internet in different ways, so the high costs of obtaining information analysis make it difficult for investors to deal with and compare these reports, which may lose their importance.

Seeing how important the existence of electronic disclosure is, the origination of eXtensible Business Reporting Language, abbreviated as XBRL, has extended the world of financial reporting with the technical aspect of the Internet. It might be interesting to learn more about the combination of these two fields and the economic consequences it has for companies. Accordingly, the main research question will be as follows:

To what extent is the implementation of the Extensible Business Reporting Language (XBRL) necessary for Algerian organizations?

In order to answer this question, three sub-questions have been formulated:
1. What is "eXtensible Business Reporting Language" (XBRL)?
2. How can XBRL improve the quality of financial reporting?
3. What are the possible steps to implement XBRL for Algerian organizations?

Importance of the study:

The motivation behind this research is due to the belief that reporting in an XBRL format will be mandated worldwide in the near future. Therefore, it is important to expand the knowledge space for XBRL as one of the modern aspects of financial accounting and to understand the consequences of such a transformation in reporting for Algerian organizations. Furthermore, the results could also be useful to regulators, since they could be interested in the influence that XBRL has on the quality of reporting before they decide to mandate it.

Purpose of the study:

In light of what was mentioned above, the objectives of this research can be determined by the following:
1. Learn about XBRL and how it is used;
2. Clarify the extent of XBRL's contribution to the development of electronic disclosure and financial reporting;
3. Develop proposals on the integration of XBRL into financial reporting for Algerian organizations.

Design and methodology:

This research is divided into two main parts. In the first part, the theoretical framework of XBRL will be addressed, and the benefits and costs of using this language will be covered. The last part will clarify the necessity of using XBRL as an electronic accounting disclosure language for Algerian organizations.

The research method includes both the descriptive approach by defining the theoretical framework for the research by making use of studies related to the field of research, as well as the analytical approach by conducting analyses about the importance of language in improving financial reporting and presenting a set of proposals to adopt this language by local organizations.

Review of Literature:

Juhandi N.et al. (2022) described the impact of XBRL on a paradigm shift in financial reporting and its relation to the supply chain of financial reporting. The method that they used in the research is a descriptive quantitative method. The results of this study showed that transparency and the presentation of data are important in the discussion of corporate governance, especially to avoid information asymmetry. The weakening of stock trading caused the stock price at the initial price to feel higher than before. Therefore, the high share price will reduce the ability of investors to buy these shares.

İşbil. N. et al. (2021) discussed the necessity of integrating XBRL into the accounting curriculum in Turkey and made some practicable suggestions on how XBRL can be integrated into accounting curriculum. They used a sample including the accounting departments of universities that provide a 4-year undergraduate degree during the 2019–2020 academic year in Turkey. Thus, the research's data set consisted of the accounting curricula of 13 universities. The course programs and course contents of the relevant universities and departments were accessed and analyzed over their websites. Findings revealed that the courses in the curriculum do not incorporate information about XBRL. Thus, they suggested how XBRL can be integrated into the existing curriculum.

Benbouali K. and Berberi M. (2018) examined the role of XBRL in electronic accounting disclosure and how it contributes to the activation and efficiency of the stock market. To achieve their goal, they conducted a field study to validate their plan. The questionnaire was distributed to some practitioners in countries that applied XBRL (Malaysia, South Africa, Romania, Oman, etc.). Finally, they concluded that there is a strong relationship between XBRL and the efficiency of the financial markets by helping them to fulfill the conditions of creating information consistency, achieving corporate governance principles, increasing trading volume, etc. furthermore, the number of companies listed on the stock market, using XBRL or reported in XBRL reports will increase the number of investors.

Đurković, E. et al. (2017) aimed through their paper to point to the possibility of adaptation of XBRL standards in the Republic of Serbia, with particular reference to the standard implementation process in developed market and the neighboring countries. By analyzing the processes of implementation in the neighboring countries, this study found that the situation in none of the countries is much better, and that they share a large number of common problems. furthermore, the importance of the state is prominent as the key to initiating the implementation process, because the work on a higher quality of financial reporting is responsibility of the state. So, they concluded that models for XBRL implementation do not differ significantly in less developed countries.

Research Gap:

From the analysis of previous studies on the subject of XBRL, it is found that no study has focused on the importance of XBRL for financial reporting in Algeria. So, the present research is intended to fill the existing gap by conducting a study on the impact of XBRL use on the quality of the financial reporting and accounting disclosure and coming up with results that help draw attention to the need to use this language locally.

II. Fundamentals of eXtensible Business Reporting Language (XBRL):

The Internet changed the costs of information processes and, with them, the demand and supply of financial information in capital markets. To address inherent problems, Charles Hoffman, an analyst from the U.S.A., began experimenting with XML in April 1998. XML is a meta-language that allows for the classification, comprehension, and manipulation of data. The purpose of XML is to create custom markup languages, though there are no fixed tags for certain information components. (Van Cauter, 2011, p07)

II.1 What is eXtensible Business Reporting Language (XBRL)?

XBRL falls within the scope of the XML family. It is a markup language that transforms the output of financial systems into a format that is generally readable, which is accomplished by coding it. XBRL is defined as "a standard-based method with which users can prepare, publish (in a variety of formats), exchange, and analyze financial statements". XBRL can be applied to existing financial and nonfinancial information. (Van Cauter, 2011, p08)

XBRL is a computer language used to provide financial information in an interactive data format. Companies use XBRL to apply tags to each piece of data in their financial statements. These tags identify the data and make it machine readable. This technology facilitates the aggregation, comparison, and large-scale statistical analysis of that information by investors, their financial advisors, and professional analysts. (Clifford Chance, 2017)

Through the above, XBRL is a largely automated international reporting language for financial data. It provides a common global standard for the presentation and exchange of business information in near real-time throughout the world that can be accessed and quickly understood by humans or computers. The explanation of the features of XBRL and the issues that create information confusion about XBRL is given in the table below:

Table (01): What XBRL is and What XBRL is not?

What XBRL is?	What XBRL is not?
• XBRL is relevant to any organization or individual that either produces or uses financial reports. • XBRL is flexible and accommodates individual preferences. • XBRL facilitates the preparation and reuse of financial data. • XBRL increases the speed and frequency with which information can be prepared, reported, and used. • XBRL automates the time-consuming, manual and error-prone tasks of translating corporate information from whatever format it is provided into whatever format a user wishes to employ. • XBRL frees information from time and place constraints, as stakeholders anywhere in the world only need an internet connection to get access.	• XBRL is neither a set of accounting standards nor a detailed universal chart of accounts, nor does it change financial reporting standards. It creates a tagging scheme based on existing standards. • XBRL is not a reporting template. Indeed, it frees users from the need to follow any specific format since each bit of data is tagged with its own context. • XBRL does not change what is reported. It will not have any effect on the numbers. • XBRL is not a US-based effort but an international effort. • XBRL is not a proprietary technology. It is freely licensed and available to the public.

Source: İşbil, N., Köroğlu, A. G., & Zaif, F. (2021), P. 191.

XBRL is an attempt to add a standardized description (tagging) to business and financial information (financial reports). XBRL applies the concept of metadata. It is developed and supervised by the XBRL International Consortium, an international nonprofit organization, (Juhandi, et al., 2022, p07) with approximately 600 member organizations, companies, and government agencies around the world. It is being used in more than 50 countries. (FASB, 2022)

II.2 How does XBRL work?

From a technical point of view, XBRL is a standard for manipulating financial information (i.e., line items in a financial report) on a computer. The differences between normal computer information exchange technology (such as Microsoft Word, Adobe PDF, and Microsoft Excel) and XBRL are significant. First of all, it gives or assigns a code to each line item of report. Secondly, the

code is unique to a specific financial region or worldwide. Third, relationships are established between each code depending on the financial line item they present. (Wang, 2015, p42)

II.2.1 Components of XBRL:

The standard of the code is called "Taxonomy". The relationship between codes is called "Business Rules". The financial information that reporters (i.e., accountants) create using these techniques are called "instance documents". An accountant may paste this type of information directly into a Word document or Excel file and send it to financial report end users. However, in XBRL financial reporting, an accountant needs to do more work. (Wang, 2015, p43) Figure 1 demonstrates the technical design and relationship between XBRL pieces:

Fig. (01): XBRL technical design map
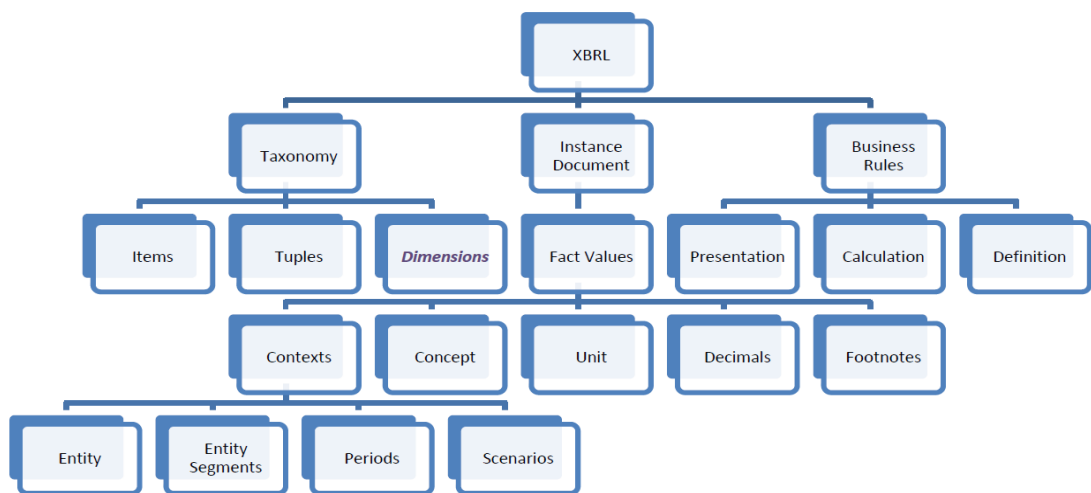
Source: Wang, Z. (2015), P. 44.

- **Taxonomy:** Or dictionary, it doesn't necessarily define the concepts, but it does either define them or point to the definition or provide a definition in some manner. The taxonomy gives a precise definition about the meaning of each term (semantics), including references and examples. Other information helpful in making use of the concept is also provided, such as labels in any number of languages, relations of a concept to other concepts, and such. For example, a taxonomy may contain the concept "NetIncomeOrLoss" or "SalesNet," express that the concepts have labels of "Net Income (Loss)" and "Sales, Net," respectively, and communicate the specific ways the concept relates to other concepts in the taxonomy such as "SalesGross", "Taxes", and "Expenses". (Hoffman & Watson, 2010, p20)
- **Instance Document:** The instance document contains actual financial reporting data and context information related to it. For example, the value of land in 2010 on a balance sheet was 3,235 £. This value in an instance

document shall also contain the period 2010, the unit "'000", and the type of currency "£". (Wang, 2015, p49) So, the instance document is the report that describes the accounting information, such as the income statement and the financial position; and the style sheet is the form in which the report to be extracted (Instance Document) is presented. (Jameel, 2022, p10)

- **Business Rules:** Officially, business rules only imply the rules of relationship between factual data in instance documents, which is a similar meaning of the Calculation. Calculation defines the logical calculation relationship among factual data in the instance document. They are originally defined with taxonomy and terms in special business fields. For example, in a balance sheet, the total of debt shall be equal to the total of credit in absolute value but with opposite sign. (Wang, 2015, p51)

II.2.2 Techniques and applications of XBRL:

A simple example of exchanging information can help to understand how XBRL works. Figure 2 shows an example of a business report. The information in the report is for X Company. Two periods are shown: 2009 and 2008. Information is expressed in thousands of dollars. Two-line items are shown: Net Income (Loss) and Sales, Net. (Hoffman & Watson, 2010, p18)

Fig. (02): A simple example of business report.

Source: Hoffman, C., & Watson, L. A. (2010), P. 18.

An XBRL instance has four main parts:

- ✓ **Values:** The values are the text (individual values or entire narratives) and numbers in the report, the business information. Generally, the text and numbers come from some sort of business system, such as an ERP system or a spreadsheet. For example, a value would be a number like "5347" or text, such as "Inventory consists of finished goods and work-in-progress" or even a paragraph or so of narratives.
- ✓ **Context:** The context explains important information about the values. It must be understood to what entity the values relate, to what period the values relate, and if the values are actual, budgeted, and so on. For

example, it can be said that the information is for X company and not for another, and that the period is for 2009, not 2008.

✓ **Concepts:** That means technical representations of business terms. For example, "Net Income (Loss)" and "Sales, Net" from Figure 2 are business terms. These business terms are associated with the text or numbers contained in a business report, the values. These business terms can be represented as technical structures and given unique names, such as "NetIncomeOrLoss" or "SalesNet". The unique names help to differentiate concepts and the associated business terms. The concepts are basically a controlled vocabulary of precisely defined business terms. These can be financial reporting terms, accounting terms, or even nonfinancial terms. Values (like "5347" in the example) are reported for concepts and are reported within a specific context.

✓ **Tags:** Within the XBRL instance, the business information, or the values, is expressed in the form of what is often referred to as tags. Tags are the names of concepts defined in the taxonomy. Each value has a specific tag, and that tag connects to the concept, its definition, and all the other information contained within the taxonomy. For example, one tag may be "Net Income (Loss)," while another tag may be "Assets."

Tags are used in many places. XBRL instances and XBRL taxonomies are collections of these tags. A tag's fundamental function is to add structure that enables computers to understand the pieces of an XBRL instance and XBRL taxonomy. Tags look like this within the XBRL instance:

```
<gaap:NetIncomeOrLoss
 contextRef="Period-2009"
 unitRef="US-Dollars"
 decimals="INF">5347000</gaap:NetIncomeOrLoss>
```

The preceding code expresses the value 5347000 as being for the concept gaap:NetIncomeOrLoss. The other tags help explain the context of the information. Concepts used within the XBRL instance are specified within the taxonomy in the form of other tags, or elements, and look like this in taxonomy:

```
<xs:element
 name="NetIncomeOrLoss "
 type="xbrli:monetaryItemType"
 substitutionGroup="xbrli:item"
 xbrli:periodType="duration"
 xbrli:balance="credit">
```

The preceding code specifies a term as a tag within an XBRL taxonomy, which is then used within the XBRL instance to express a value. In the example, the term Net Income (Loss) is specified in the taxonomy as the element

"NetIncomeOrLoss". The definitions of the terms specified come from accounting rules, regulations, laws, international standards, other written specifications, or from whatever governing body wants to exchange information in this manner. (Hoffman & Watson, 2010, p21)
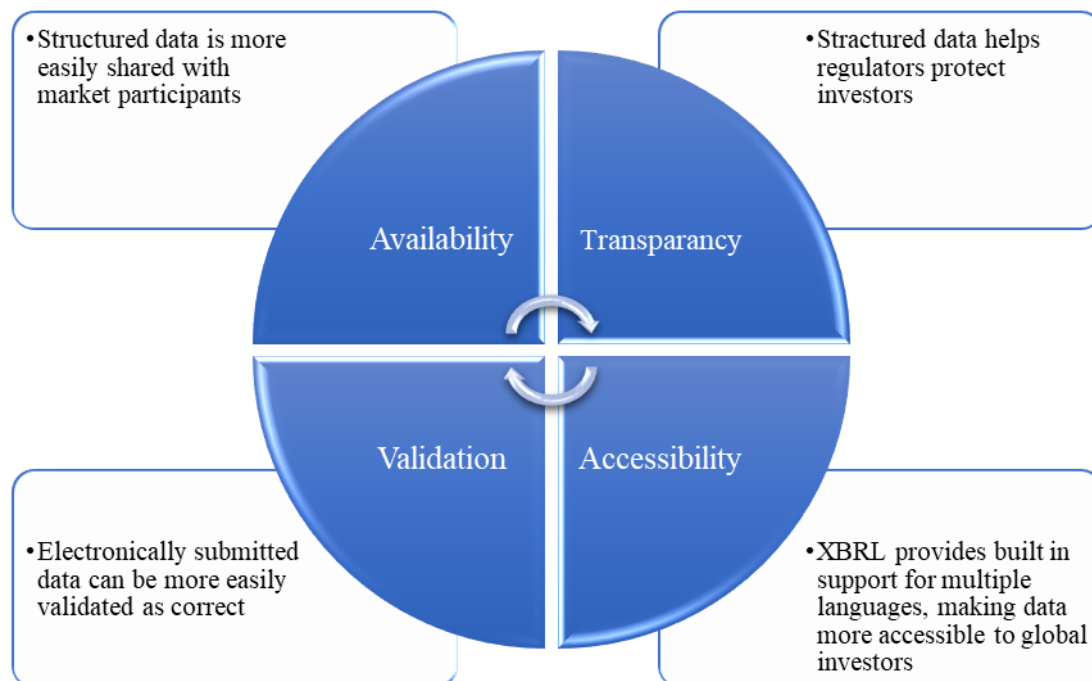
II.3 Pros and Cons of XBRL:

Fundamentally, XBRL is a language that lets organizations effectively and efficiently bridge the perceived artificial boundaries between business systems, exchanging business information between those systems, whether internal or external to the organization.

II.3.1 Benefits of XBRL:

The creation of an XBRL taxonomy implies the agreement of all interested parties (regulators, IT experts, academics, industry). Once the taxonomy is made public, the reporting entity must (for mandatory reporting schemes) or may (for voluntary reporting initiatives) prepare and publish the necessary XBRL reports. The report can be for multiple recipients: the corporate website, an official reporting platform, a data repository, etc. (Faria & Mora, 2016, p08) The benefits caused by XBRL can be divided into internal and external benefits. The following figure shows the benefits of XBRL according to four aspects:

Fig. (03): Benefits of XBRL

- Structured data is more easily shared with market participants

- Stractured data helps regulators protect investors

Availability Transparancy

Validation Accessibility

- Electronically submitted data can be more easily validated as correct

- XBRL provides built in support for multiple languages, making data more accessible to global investors

Source: Faria, P., & Mora, M. (2016), P. 08.

- The **availability** of XBRL data has helped users go deeper in their financial analysis, view and collect financial data, perform peer comparisons, review cross-sectional or time series data for patterns or variances, update forecasts

with as-reported information, and more. With a machine's ability to use XBRL and the Internet as a distribution platform, XBRL data is widely used for a more efficient and effective exchange of digital machine-readable financial statement data. (FASB, 2022)

- XBRL is also called "bar code for reporting" and makes it as precise and efficient as possible. It enables linking unique tags with facts in reports, and allow presenting reports without fear that they are not correct. (Đurković, Šaponja, & Đurković, 2017) So, the key advantage of using XBRL is **validation**. The validation tool software can tell almost exactly which data may be wrong, instead of enduring the previously time-consuming and costly process of finding out where one has gone wrong in a long spreadsheet report. (Wang, 2015, p44)

- Third, it is possible to mention many benefits regarding the **accessibility** of using the XBRL system for different information users. Once the data is generated in XBRL, business facts are more accessible for any kind of data analysis application, and enable the reporting entity itself and all users to make easy and fast calculations, rankings, benchmarks, and comparisons. (Faria & Mora, 2016, p08)

- The fourth benefit lies to **transparency.** XBRL allows investors and financial analysts to analyze data accurately thanks to its ability to arrange and classify financial data in a way that facilitates comparison, both vertically and horizontally, leading to high quality, accuracy, and in-depth analysis. it also makes use of open data for analytical purposes, provide better risk management information in the enterprise, and enable integrated reporting. (Benbouali & Berberi, 2018, p49) So, the new comparability increases the transparency of decision making since choices can more easily be registered. (Van Cauter, 2011, p10)

II.3.2 Disadvantages of XBRL:

Besides benefits, XBRL could also have a number of disadvantages or difficulties that will have to be faced organizations. The main issue is the incompatibility that could arise among the different taxonomies used by organizations. Due to different organizational needs and various other factors, it is presumably impossible to create one universal XBRL taxonomy and a uniform context for all organizations. Consequently, there will be heterogeneity in different forms concerning the implementation of XBRL. Another possible difficulty could be the differences in taxonomies between industries. A similar problem could occur between the taxonomies of different countries. Reporting in XBRL format will cause additional costs, which are subdivided into two broad categories: direct and indirect costs.

The direct costs include training, infrastructure, and costs that are caused by software and personnel expenses to help prepare, implement and support the XBRL-technology. Since knowledge and experience grow as time progresses, the direct costs are expected to decline over time. The indirect costs include the costs of personnel spending time on the implementation of the reports in XBRL-format and temporary put away their regular work. This will mainly occur in the first few years, when companies will likely need to produce two sort of reports: one in the new XBRL-format and one in the regular format. (Van Cauter, 2011, p12)

II.4 XBRL Around the World:

By the end of 2007, there were 15 established XBRL jurisdiction representatives in Australia, the IASB, the Netherlands, Belgium, Ireland, Spain, Canada, Japan, the United Kingdom, Germany, Korea, the United States, France, Sweden, and Denmark, and seven provisional jurisdictions in Poland, South Africa, the Arab Emirates, Luxembourg, "RIXML", Italy, and China. Many countries have already made XBRL mandatory for financial reporting or are planning to do so. (Wang, 2015, p14) Dozens of XBRL taxonomies are now available at the XBRL organization's web-site for external reporting all over the world, financial statements, audit reports, solvency forms, tax filing, and other important fields of business intelligence. (Bonsón, Cortijo, Escobar , & Flores, 2009, p38)

Fig. (04): XBRL implementation around the world
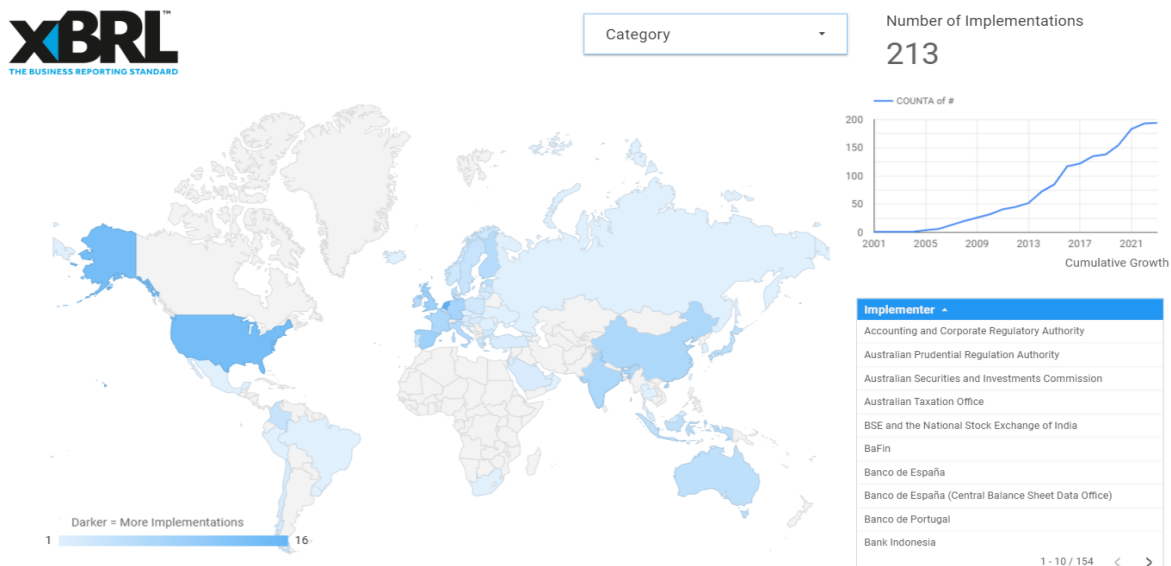
Source: XBRL. (2023, January 22).

Implementers around the world benefit from the freely licensed XBRL specifications, allowing them to control data definitions, data quality and data management. The above figure provides information on XBRL implementations,

largely for regulatory and supervisory purposes. There are no formal requirements to notify XBRL International about using the XBRL standards. The list is compiled using publicly available information and with assistance from community members. (XBRL, 2023)

- **XBRL and IFRS:** The cooperation between XBRL International and IASB was created IFRS Taxonomy (first published in 2002). This taxonomy is consistent with IFRS, including IAS and IFRS for SMEs. IFRS also issued an IFRS Taxonomy Guide, a technical support guide for users of the IFRS Taxonomy. The guide addresses both the financial reporting content and the XBRL framework of the IFRS Taxonomy. Therefore, the XBRL adoption, together with IFRS, can help create a formal system, which, together with best practices, will improve the transparency and quality of financial reports and their data for users and shareholders. (Singerová, 2015, p139)

- **XBRL in the EU:** In June 2008 was created, under the initiative of XBRL International consortium and some European jurisdictions, the non-profit organization XBRL Europe. This is an affiliated entity whose objectives are: to promote a platform for the creation and exchange of business information at European level; to promote and support the standardization of electronic business information through the use of the XBRL standard; to support its members in different actions or in solving problems related to the XBRL standard, etc. To achieve its mission, XBRL Europe created, through the XBRL Europe Business Registers Working Group, the xEBR Taxonomy, which defines common concepts for company identification and financial statements and aims to be a connecting pivot between existing national taxonomies. (Enachi & Andone, 2015, p187)

- **XBRL in the USA:** In May 2008, the U.S Securities and Exchange Commission (SEC) signaled its intent to require XBRL reports for compulsory financial reporting of the major 500 companies this year, and for all listed enterprises in 3 years. This extends its original plan, announced in October 2006, to modernize its EDGAR (Electronic Data Gathering, Analysis, and Retrieval) system and its more recent announcement, in August 2008, to replace EDGAR with IDEA (Interactive Data Electronic Application), which has XBRL at its heart. (Bonsón, Cortijo, Escobar , & Flores, 2009, p38)

- **XBRL in Asia:** XBRL is required in many countries in Asia: Japan, China, Korea, and Taiwan require all companies listed on stock exchanges in Tokyo, Shanghai, Shenzhen, Seoul, and Taipei to report their financial statements in XBRL. In 2004, China became the first country in the world to formally adopt XBRL reporting for its equity markets. In 2013, the stock exchange in the United Arab Emirates implemented XBRL for financial reporting (for

approximately 250 companies). The purpose is to increase the attractiveness of listed companies for foreign investors because the information will be easily available for analysis. (Singerová, 2015, p137)

- **XBRL in Africa:** In Africa, XBRL was founded in 2006 with headquarters in Nairobi, Kenya. Currently, it is focusing on business advisory, enterprise support, and the execution of XBRL seminars. In South Africa, the Companies and Intellectual Property Commission (CIPC) has mandated the submission of annual financial statements in XBRL as of July 1, 2018. (XBRL, 2018)

II.2 Proposals for XBRL implementation in Algeria

Employing information technology to structure the Algerian Financial Accounting System is a very important step to increase the readability, organization, and transparency of the financial reporting prepared according to it. In terms of organizing the accounting reference, the Financial Accounting System must be written down on an official website that is considered a database to allow easier search, viewing, and retrieval of content. In terms of electronic disclosure, XBRL is the universal language used, which can also be relied upon to enhance the quality of financial reporting.

III.1 Using XBRL according to the Financial Accounting System:

In Algeria, financial reports are submitted in electronic format (as PDF documents) and on paper, while reports are not formatted according to XBRL. A potential impulse for XBRL in financial reporting is the automatic production of high-quality data about a company's performance. Furthermore; XBRL can be relied on since it has its own vocabulary and the possibility of adding requirements related to the Financial Accounting System, its vocabulary, and its rules. One of the most important advantages of this language is that it is electronic based on electronic technologies, standardized due to the standardization of the used terminology, and expandable because it is an open language that allows the addition of terms. It is also free and supports the Arabic language. The figure below explains how companies can submit their financial statements using XBRL.

Fig. (05): Using XBRL for financial reporting according to the Financial Accounting System
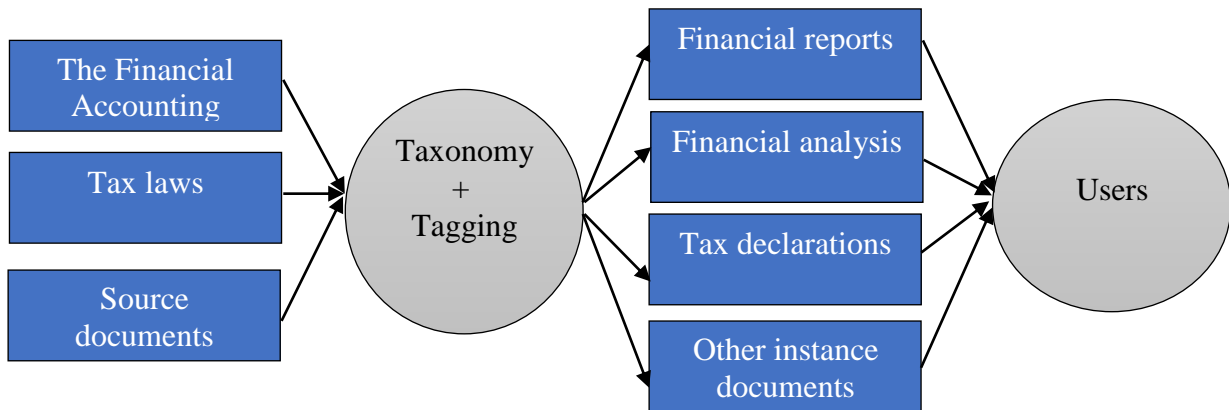
First of all, the Financial Accounting System, tax laws, and source documents, including financial reports in accordance with the Financial Accounting System are converted into taxonomies using information coding rules that turn them into a data glossary that identifies the mandatory elements contained in the reports, which in turn contains all information about this element, including its definition, classification, calculations, formulas, and footnotes, among other items, as well as information about presentation methods as required by the Financial Accounting System. These taxonomies can be adapted to an appropriate level of detail from the accounting and financial terms in the Financial Accounting System and tax laws, and also allows the inclusion and formation of locally used commercial and industrial terms. Then, tags are assigned from taxonomies to all items that appear in financial reports, which are used to encode and define the vocabulary of financial reports and link to a corresponding element in the XBRL taxonomy. After completing the taxonomy preparation and tagging, the entity's financial reports and other instance documents in XBRL format that contain data and facts from financial reports described in detail are ready for electronic publication and valid for exchange.

III.2 Suggested stages for XBRL implementation in Algeria:

This language has been used in the classification of IFRS and has spread in various global financial markets as a basis for electronic disclosure. Algeria must adopt this language as one of its future strategic projects, in parallel with the reform of the Financial Accounting System and in coordination with the concerned authorities. The steps taken in implementing XBRL around the world have similarities and include mandatory elements. Therefore, the steps to implement XBRL in Algeria will not differ significantly from those in other countries, especially since the starting points are very alike. Some of the

inevitable implementation steps are legislative; development of taxonomies; application to a sample of companies; creation of software support; etc. The following is a presentation of the proposed stages for XBRL adoption:

Fig. (06): Possible stages for using XBRL for Algerian organizations
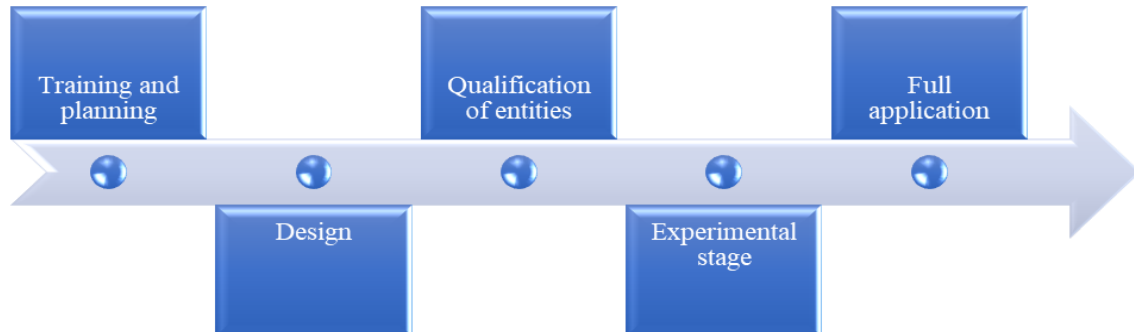
Source: prepared by the researcher.

1. **Training and planning**: It is an important preliminary stage for good preparation for the application process, and it requires more time than other stages in order to fully understand the details surrounding this language and other requirements. This stage includes holding scientific forums, offering training courses about XBRL to educate the various interested parties (investors, accountants, internal and external auditors, professors and researchers, etc.), conducting research, and drawing on the experience of the first jurisdictions that are using XBRL. In addition, the regulators must decide on the deadlines for the rest of the stages and, in particular, determine the date of the mandatory application of XBRL.

2. **Design:** During this stage, a team of qualified financial report preparers and information technology experts is formed, and external experts can be used as consultants in this field (a team consisting of an oversight committee, a steering committee, a specialized technical team, and an executive team) to carry out the general design and construction of the components of this language by developing national taxonomies depending on the Financial Accounting System, tax laws, various sources. At this stage, software solutions that support XBRL must be developed.

3. **Qualification of entities:** A certain circle of entities is prepared for the voluntary application of XBRL and is accompanied at this stage. The necessary digital and technical infrastructure must be provided to use this language. The main objective of this stage is a comprehensive understanding of all legal requirements and instructions related to the application and the plan of the authority in this field.

4. **Experimental stage:** This is the stage of initial transformation of some entities in the process of experience, and may consist of the following steps:

✓ Determine the appropriate taxonomy for the nature of the entity's economic activity;

✓ Generate instant documents extracted in XBRL;

✓ Reviewing documents and verifying their validity according to the Financial Accounting System and legal requirements at various levels and ensuring that the process of creating them has been completed accurately and completely and correctly reflects the information contained in the original financial reports.

5. **Full application:** Here, the experimental stage is evaluated and developed to improve efficiency and effectiveness and benefit from trial and error to develop strategies aimed at generalizing the full compulsory use of XBRL within the financial reporting process, as well as its use in analysis, taxation, and statistics.

III.3 Main factors for the success of XBRL implementation in Algeria:

The adoption of a new technology is influenced by a variety of factors and represents the result of adapting to the changes in the environment in which information is produced and used. Considerable importance can be placed on a set of factors for the success of the implementation of XBRL in Algeria, given the experience of other regions of the world: the level of awareness of the benefits and costs involved by the XBRL implementation; adequate and appropriate preparatory activities and how can Algerian regulators and professional organizations support XBRL implementation.

Table (02): Possible factors for the XBRL implementation's success

Criteria	Elements
Awareness of the importance of XBRL	✓ Introducing the study of XBRL into accounting educational curricula for university students; ✓ Holding conferences and training courses to introduce XBRL and how it works; ✓ Widely publicity about XBRL and its advantages and costs in the media, social media, newspapers, and brochures.
Appropriate preparatory activities	✓ Analysis of the current reporting environment and the form of submitting financial reports; ✓ Encouraging the voluntary use of XBRL by a certain circle of companies; ✓ Develop pilot projects testing selected companies; ✓ Identify all critical milestones in the development and

	implementation phases of XBRL; ✓ Support XBRL with an appropriate software solution integrated with some characteristics, like the ability to gather data into appropriate files in all the necessary output formats, such as Word, Excel, PDF, and XBRL; a defined manner of work; the possibility of audit; and security.
Support of official bodies for the XBRL implementation	✓ Inclusion of XBRL in national legislation; ✓ Formation of a national committee for XBRL at the state level; ✓ The state should take primary responsibility for the entire process, including raising awareness of the importance of XBRL.
Support from professional organizations	✓ Provide potential users with information on the structure, significance, and implementation of the new language and provide training on the functionality of the XBRL software solution; ✓ Embarking on a large number of activities for electronic bookkeeping and disclosure.

Source: prepared by the researcher.

From the very beginning, organizations must be prepared for the fact that implanting XPRL is an ongoing process, not a casual project. Considering that it will give the best results, and that value will grow in the years to come. For this reason, there must be sufficient awareness and a preparatory phase prior to this change to provide the necessary ingredients for the possibility of converting to the implementation of XBRL.

III.4 Obstacles facing XBRL implementation for Algerian organizations:

Some of the most serious obstacles to successful use of XBRL could be:

✓ The official authorities of Algeria still have more other problems to resolve in relation to accounting and auditing, and always new problems occur, preventing the legislator from devoting attention both to the possibility of XBRL implementation;

✓ The Financial Accounting System was issued in 2007 and has not been revised since then. It suffers from shortcomings and has a large gap between it and IFRS, so the priority lies in updating and developing it first to make it suitable for XBRL;

✓ The development of internal software in Algerian organizations is still not developed, as most companies do not have a good information technology

department, which often requires delegating this job to a third party;

✓ Many preparers and users of financial statements largely do not have good technical qualifications.

It should be noted that the path from acknowledging the importance of introducing XBRL, through its voluntary imposition, to full implementation is very long and rough, which is by no means an excuse to abandon, considering that reporting in accordance with XBRL will soon become inevitable. Taking into account the fact that its implementation is mandatory in many countries around the world, it becomes clear that the only feasible method for local organizations is to prepare for change with the support of regulators.

IV. Conclusion

This study investigated the necessity of XBRL implementation in Algeria and tried to provide proposals for the future adoption of this language by Algerian organizations. Skepticism regarding the utility of XBRL is over, and the time for implementation is here. As one of a family of XML languages, XBRL is becoming a standard means of electronic disclosure and communicating information among businesses, banks, tax authorities, and regulators. Since its inception and until today, XBRL has experienced a large expansion across the world, marked not only by the creation of a large number of jurisdictions but also by the interest shown by a growing number of organizations in using this language for filling financial reports due to several advantages that, in the end, bring better information for decision-making.

- *Results*:

Through this study, the following conclusions can be drawn:

✓ XBRL documents can be prepared efficiently, exchanged reliably, published more easily, analyzed more effectively, and retrieved by investors more simply and less costly;

✓ Financial data in XBRL only needs to be entered into the computer system once and can be used multiple times, so the adoption of XBRL technology has far-reaching benefits for accountants, decision-makers, creditors, and regulators;

✓ XBRL is an ideal solution for achieving the desired quality of financial reporting, which is stated as an objective in financial accounting and auditing;

✓ Despite the fact that this technology is still new, adoption of XBRL has been remarkably rapid worldwide. Many countries have already made XBRL mandatory for financial reporting or are planning to do so;

✓ To implement XBRL successfully in Algeria, the main role in

implementation should be played by the state and its agencies;

✓ There is an urgent need for Algerian regulators to ensure the application of XBRL to enhance the levels of disclosure, transparency, and integrity for companies and to keep pace with global developments.

• *Recommendations :*

In order for XBRL to widely employed in financial reporting for Algerian organizations, a few recommendations need to be put forward:

✓ Regulators must encourage the use of XBRL in financial reporting. Only with the help of regulators can XBRL be adopted quickly;

✓ More user-friendly software that supports XBRL should be developed. Promoting XBRL in the financial reporting community relies heavily on affordable and easy-to-use software supporting XBRL;

✓ It is important, at the outset, not to force companies but to leave them free to choose whether to use the new technology;

✓ Providing companies, through professional organizations and well-equipped internal or external staff, with information on the taxonomy development and instance document creation processes;

✓ Encouraging academic research and training courses to synthesize and spread the practice of XBRL, making it easy to understand and apply;

✓ Boosting international participation and conferences to benefit from the experiences of other countries that apply XBRL will increase awareness of its advantages;

✓ Further research on this topic is necessary to enable the development of a unique model applicable to Algerian organizations.

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