



XBRL Research in Financial Reporting:

Exploring Trends, Impacts, and Future Directions

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Abstract ;

The purpose of this study is to assess the body of research regarding the Extensible Business Reporting Language (XBRL), as well as to identify its basic elements and future directions.

This is accomplished by analyzing a variety of bibliometric indicators, such as the development of publishing, the co-occurrence of author's keywords and terms in textual data, in addition to analyzing the substance of the most cited and influential publications. This is for 822 international publications with production history spanning from 1998 to 2022, which were selected from the Scopus database. This study concluded that the volume of publications regarding XBRL subject has fluctuated in recent years, and that emerging technologies, enterprise value, processing costs, Improving the informational function of financial reports is among the recent and significant research themes in this research field.

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1. Introduction

The informational function is among the key roles of accounting, which determines its capability as both a science and an art in achieving its desired objectives. Amid rapid technological progress and information systems advancement, along with the widespread of the internet—which is one of the early signs of digital transformation—and following the 2008 global financial crisis and its repercussions on the financial market and its requirements, financial reporting in institutions has become fundamentally required to be fully transparent and to achieve quality standards. Consequently, major accounting bodies and professional organizations found themselves facing the challenge of creating an appropriate environment that allows accounting practices to adapt to the requirements of the contemporary business environment and its updates. This was a move that the “Securities and Exchange Commission” (SEC) took a lead in April 2009 by issuing a regulatory directive requiring various institutions, especially those that have stock exchange listing, to implement the “extensible business reporting language” (XBRL) as a new electronic format for collecting, analyzing, and retrieving electronic financial information (Dhole et al., 2015, p.29).

The XBRL is considered a standard encoding system and a language primarily used for exchanging business and financial data (Faccia et al., 2019, p.32). It allows, compared to other formats like Excel, Word, and XHTML, a set of advantages for the reporting and financial disclosure process. This is achieved by implementing many improvements in the processes of preparing, analyzing, communicating, and exchanging financial information (Tawiah & Borgi, 2022, p.817). This has led to its wide acceptance and spread in many companies and regulatory bodies in more than 60 countries around the world, in addition to being supported in more than 200 software packages (Faccia et al., 2019, p.32). The widespread adoption of this technology within the business environment was accompanied by increasing interest from researchers in the academic community, who sought to cover this topic from all aspects and through various developments, which in turn resulted in a large number of research publications that need to be evaluated, reviewed, and enriched, a task that can be achieved through bibliometric analysis.

Bibliometric analysis can be described as the science that utilizes statistical and mathematical methods to study and analyze bibliographic data of research and scientific publications. Its purpose is to identify and understand the characteristics of intellectual output (Nimour & Abdelilah, 2019, p.121) and to pinpoint knowledge gaps within it. In regards to XBRL subject, there are multiple studies that have adopted this science as a method to address and enrich this topic from a research and academic perspective. Studies by (Ahmi & Mohd Nasir, 2019; Amirul et al., 2022; Bartolacci et al., 2020; Erkus & Chiu, 2014; Murdayanti & Ali Khan, 2021) have sought to analyze the evolution of research output on XBRL by presenting a bibliometric analysis of related publications extracted from various sources such as: (W.O.S), Scopus, Emerald, and ProQuest. A majority of these studies agree that topics linked to application prospects and challenges, disclosure, financial

reporting, corporate governance, quality of financial reports, auditing, and review of financial reports, represent the fundamental research elements concerning the XBRL. Future research is primarily directed towards addressing topics related to the application prospects of this language in developing economies and small and medium enterprises, its relationship with other emerging digital technologies, sustainability reporting, and environmental and social disclosure. In light of the aforementioned, the aim of the current study is to assess and analyze the bibliometric characteristics regarding XBRL research, in order to evaluate these characteristics and determine the research elements and future directions.

2. Method and Procedures

The adoption of bibliometric analysis by accounting research to assess its knowledge structure and analyze its contributions to the academic research environment dates back several years (Erkus & Chiu, 2014, p.175). This method assists researchers in identifying and mapping relational networks for a specific topic, which facilitates the process of identifying knowledge gaps that, in turn, form the cornerstone for future academic research. Drawing a study sample from reliable and credible preliminary data is considered the central core of any empirical study with added knowledge value (Benzouai & Djaffal, 2021, p.51). Therefore, the study's data were extracted from Scopus, a comprehensive database for literature and academic studies, developed in November 2004 by the Dutch publishing house Elsevier (Chadegani et al., 2013, pp.18-19). This database aims to combine the features and characteristics of both (W.O.S) and PubMed databases (Falagas et al., 2008, p.339). It includes more than 243,400 books, 84 million records, 17.5 million open-source documents, and 17.6 million author accounts. It also holds more than 1.8 billion citations from various scientific sources and references, some of which date back to before 1970 (Scopus Content | Elsevier, 2023).

Table (01) illustrates the steps followed to extract the sample under study, where the term "XBRL" along with synonymous terms such as "Extensible Business Reporting Language" and "Internet Financial Reporting" were used. These terms were searched within the title of the article, and/or the abstract, and/or the keywords, setting the time frame from the oldest publication, which dates back to 1998, up to the year 2022, excluding the year 2023 due to its incompleteness. This process resulted in 822 publications. The study sample bibliometric analysis was carried out using the 1.16.19 version of VOSviewer, a free software tool that allows the creation, visualization, and exploration of maps from a data network (van Eck & Waltman, 2023, p.03). Additionally, Excel was used to assist in preparing tables and graphical representations.

Table 1. Study data and method

Searchterms	Research source	Time field of research	researchtools	bibliometricanalysisunits
<ul style="list-style-type: none"> • XBRL • Extensible business reportinglanguage • Internet financialreporting 	Scopus	1998-2022	VOSviewer Excel	<ul style="list-style-type: none"> • Joint appearance: <ul style="list-style-type: none"> - Author's keywords. - Terminology in titles and abstracts. • Citation analysis : <ul style="list-style-type: none"> -Cite publications.

Source:Prepared by researchers.

Referring to Table 2, which illustrates the distribution of the publications under study according to their scientific specialty, it is evident that there is a significant numerical density particularly in the fields of Business Administration and Accounting, accounting for 55.2%, Computer Science at 48%, Economics and Econometrics at 26.5%, Decision Sciences at 20.8%, Social Sciences at 13.5%, Engineering at 11.2%, and Mathematics at 6.8%. It is observed that the research communities in these specialties are the most interested in publishing on the topic of XBRL, whereas other fields and specialties such as Environmental Sciences, Arts and Humanities, Energy, etc., appear to have less interest in this topic.

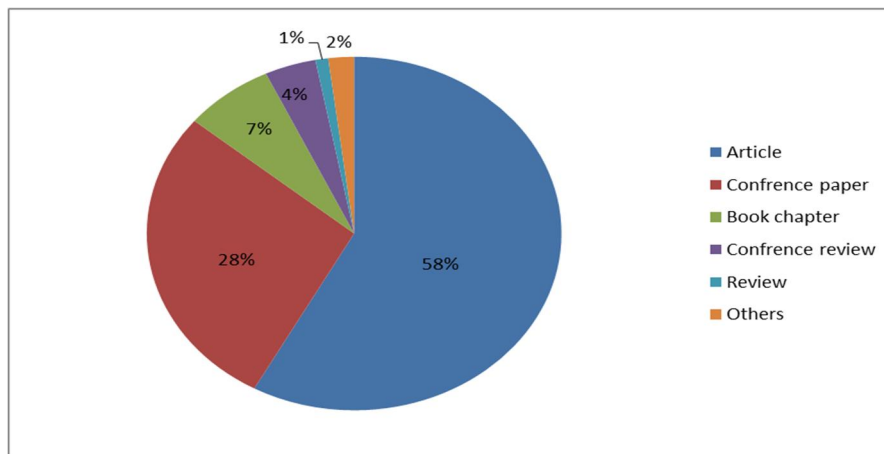
Table 2. Distribution of publications according to research specialization

Publications	
Specialty*	Number
Business management and accounting	454
Computer science	395
Economics, political economy and finance	218
Decision science	171
Social science	111
Engineering	92
mathematics	56
Environmental sciences	18
Arts and Humanities	18
Energy	10
Otherfields and sciences**	/
*The publication belongs to at least one of these fields and specializations.	
** research specializations with less than 10 publications.	

Source: Prepared by researchers.

According to Figure 1, which illustrates the distribution of publications by type, it is noted that scientific articles constitute the largest portion of the publications, accounting for 58%. They are followed by conference papers at 28%, book chapters at 7%, and conference reviews at 4%. Publications that took the form of literature reviews did not exceed 1% of the sample size. The remaining percentage is divided among notes, editorials, books, short surveys, and corrections, which altogether did not exceed 2% of the total publications.

Figure 1. Distribution of publications by type



Source: compiled by researchers using Scopus database and Excel.

3. Results and discussion

3.1 Quantitative Evolution Analysis of Publications

The analysis of the quantitative and temporal evolution of research output on a specific topic provides an overview of its value within its research and academic environment, and facilitates the process of conducting deeper and more specialized bibliometric analyses. Figure 2 illustrates the quantitative evolution of XBRL- related papers within the Scopus database over the study period. Through observation, this evolution can be divided into five stages:

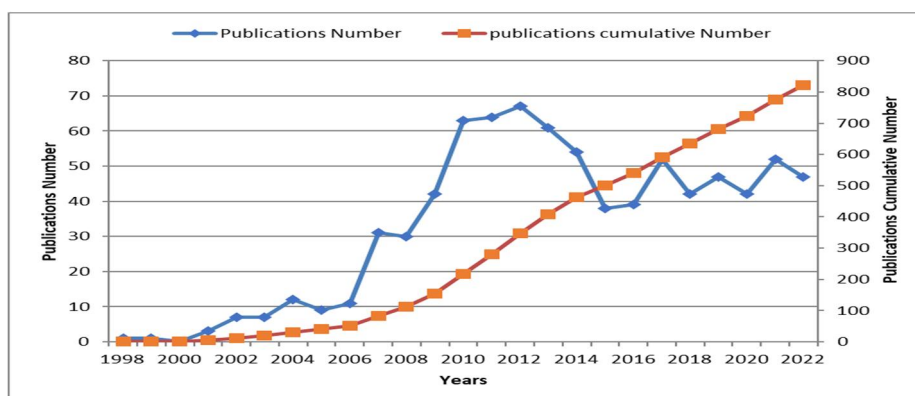
- **First Stage (1998-2000):** This stage was characterized by a low and stable number of publications, with only one publication per year. This indicates that the topic of XBRL was not initially of interest to researchers.
- **Second Stage (2001-2006):** During this stage, there was a slight increase in publications number in comparison to the previous stage, reaching a peak in 2004 with 12 publications. This coincided with the encouraging initiative launched by (SEC) in an attempt to persuade businesses to prepare and present their financial reports using XBRL (Dhole et al., 2015, p.29). It is also worth noting that there was a slight and unexplained decline in the number of publications in 2005 and 2006, with 9 and 11 publications respectively.
- **Third Stage (2007-2012):** This stage saw a significant and increasing rise in the number of publications, reaching its highest value in 2012 with 67 publications. This increase in

interest from the research community coincides with the 2008 global financial crisis and the subsequent need for financial market regulation and transparency requirements. Additionally, this period saw the issuance of a directive by the SEC in April 2009, which mandated companies to adopt XBRL in their financial reporting (Blankespoor et al., 2014, p.1468).

- **Fourth Stage (2013-2016):** During this stage, there was a gradual and accelerating decline in the number of publications until it reached its lowest value during this phase in 2015 with 38 publications, then roughly stabilized in 2016 with 39 publications. This indicates a decrease in researchers' interest in this topic, which may be due to a shift in focus towards other technological advancements such as blockchain and big data.
- **Fifth Stage (2017-2022):** This stage experienced fluctuations and turbulence in the number of publications, which cannot be precisely explained. The year 2017 saw the most publications during this period, followed by a pattern of rising and falling numbers each year, stabilizing in 2022 at 47 publications.

Referring to the cumulative curve of publications in Figure 2, it can be said that the topic of XBRL witnessed significant interest within the research community, especially during the period from 2006 to 2012, which saw the highest rate of increase in publications. However, the period from 2013 to 2022 experienced a decrease in the publications growth rate, as indicated by the slope of the cumulative curve. This suggests a decline in researchers' interest within the accounting research community in the topic of XBRL, shifting towards other topics that are considered more significant and urgent.

Figure 2. Quantitative and cumulative development of XBRL literature



Source: compiled by researchers using Scopus database and Excel.

3.2 TopicAnalysis

3.2.1Analysis of Authors' Keywords

To identify the research directions of scholars, this element will analyze the co-occurrence of authors' keywords in publications related to the XBRL using the VOSviewer software. After setting a minimum occurrence threshold of at least two appearances, a

Thesaurus was used to avoid the repetition of synonyms, resulting in the representation of only 46 out of 1320 words. Table 3 displays the twenty most frequently occurring words in publications on Extended Business Reporting Language, along with their association strength with other terms. It is evident from the table that the most frequently appearing and strongly associated words in the examined publications are: "Extended Business Reporting Language (XBRL)", "Internet Financial Reporting (IFR)", "Financial Reporting", "Disclosure", and "Extensible Markup Language (XML)".

Table 3. The 20 most frequently occurring words by authors

Rank	Keywords	occurrences	Link strength	Rank	Keywords	occurrences	Link strength
1	Extensible Business Reporting Language (XBRL)	464	411	11	Information technology (IT)	19	36
2	Internet financialreporting (IFR)	72	74	12	Ontology	18	28
3	Financial reporting	71	126	12	Accounting	18	26
4	Extensible Markup Language(XML)	39	66	14	Financial reports	17	23
5	Disclosure	33	69	15	Adoption	15	28
6	Corporategovernance	29	51	15	Audit	15	25
7	Voluntarydisclosure	28	56	17	Digital reporting	14	22
7	Taxonomy	28	54	18	Standard business reporting	13	19
9	Accounting information system (AIS)	23	44	19	Regulations	11	14
10	Information transparency	21	38	20	Diffusion	10	18

Source: compiled by researchers using VOSviewer program.

Figure 3. Keyword network for XBRL publications

Source: Developed by researchers using VOSviewer program

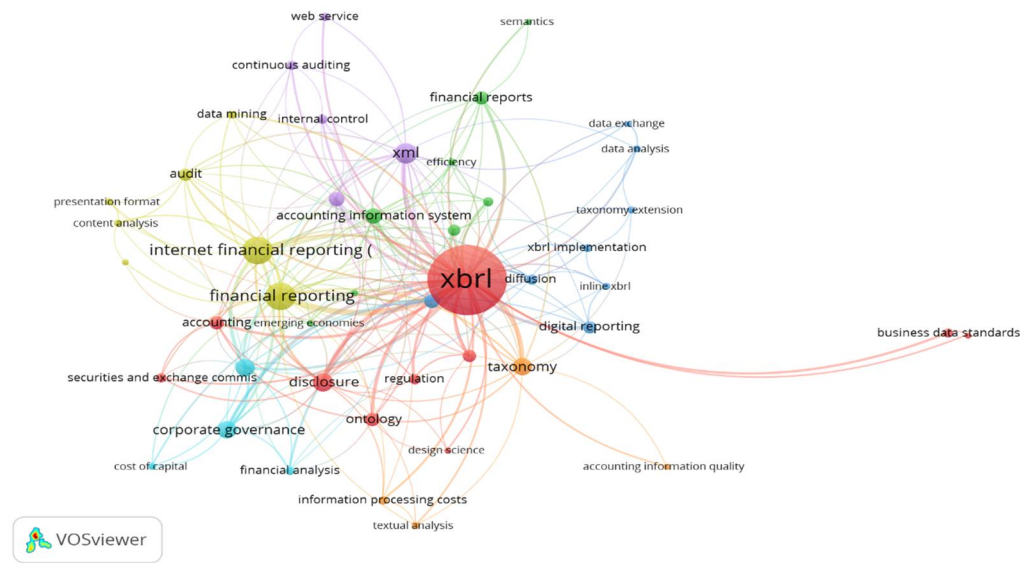
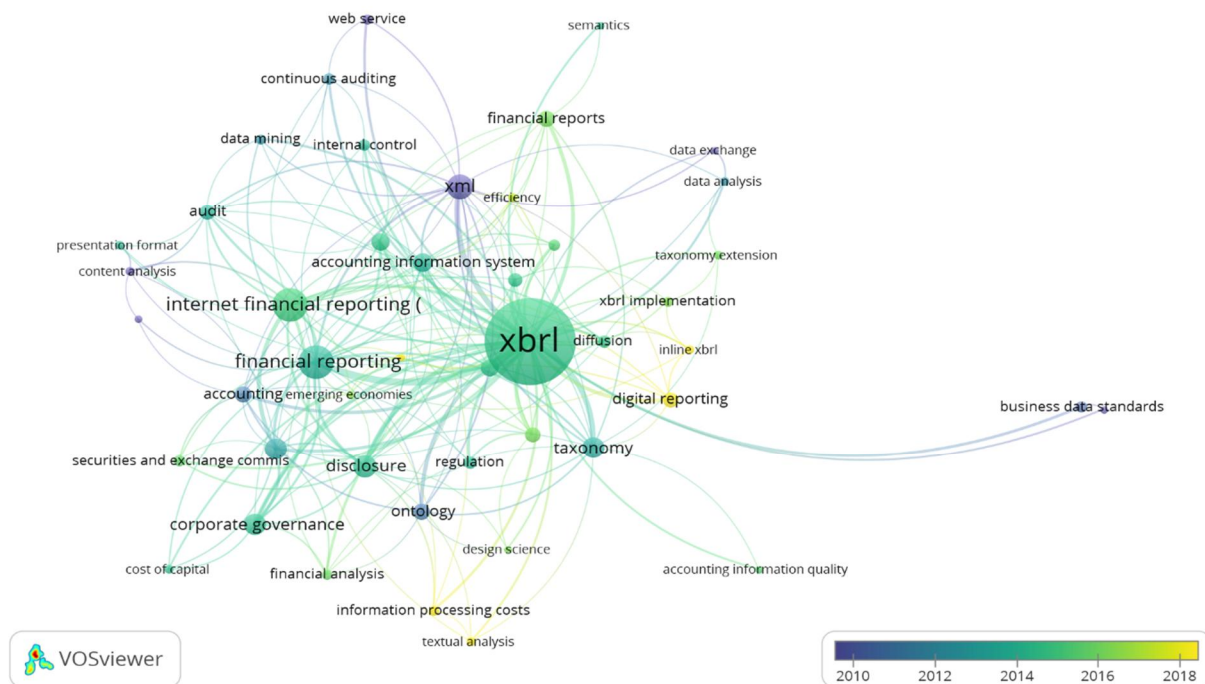


Figure 3 demonstrates that the authors' keywords for publications on the XBRL are interconnected in a network of relationships within seven main groups. **The Red Group**, centered around the keyword "XBRL", includes terms such as "accounting," "ontology," "design science," "regulations," and "Securities and Exchange Commission (SEC)." This group appears to focus on studying the adoption and application of XBRL and its relation to other sciences. **The Green Group** includes terms like "accounting information system," "financial reporting," "Standard Business Reporting (SBR)," and "efficiency." This group seems to be concerned with the technologies and mechanisms used in creating and presenting financial reports. **The Dark Blue Group** contains terms such as "digital reporting," "data exchange," "data analysis," "taxonomy extension," and "inline XBRL." The focus appears to be on financial reports interchange and analysis using specialized Extended Business Reporting Language models. **The Yellow Group** features important keywords like "Internet Financial Reporting (IFR)," "data mining," and "World Wide Web (www)." It seems to address topics related to integrating the internet into financial reporting and reporting processes. **The Purple Group** deals with risk management and monitoring, including terms like "information technology," "continuous auditing," and "internal control." **The Light Blue Group** includes terms like "corporate governance," "voluntary disclosure," "cost of capital," and "financial analysis," focusing on company management and financial performance. **The Orange Group**, the last group, is concerned with processing and analyzing accounting information through keywords such as "accounting information," "information processing," and "text analysis."

Figure 4. A chronology of keyword occurrences in XBRL publications

Source: Developed by researchers using VOSviewer program.

According to Figure 4, the most recent keywords to appear in the relational network are "text analysis," "digital reporting," "information processing costs," and "Technology-Organization-Environment (TOE) framework." These keywords reflect the recent trends among authors of publications on the XBRL. This indicates a shift towards exploring more technological, organizational, and environmental aspects of digital and text-based financial reporting, focusing on the efficiency and cost-effectiveness of these processes.

3.2.1 Term Analysis

In the bibliometric context, the co-occurrence (simultaneous appearance) of two bibliometric analysis units in the same metadata field indicates a correlation between them (Åström et al., 2009, p.15). Therefore, this section aims to analyze the relationships between terms in publications titles and/or abstracts, utilizing the VOSviewer software. After setting the minimum appearance threshold for terms in the textual data at least five times and using a Thesaurus to avoid repetition of similar words or those with the same meaning, along with excluding common words such as "person," "year," "time," only 126 words were represented out of 12,561 words.

Table 4 shows the twenty most frequently appearing terms in the textual data of publications on XBRL. It can be observed that terms like "XBRL", "company", "analysis", "Internet Financial Reporting (IFR)", and "disclosure" are the most frequently appearing in publications titles and abstracts. Meanwhile, the statistical terms "coefficient", "correlation", along with "financial domain", "Internet financial reporting practices", "dividend policy",

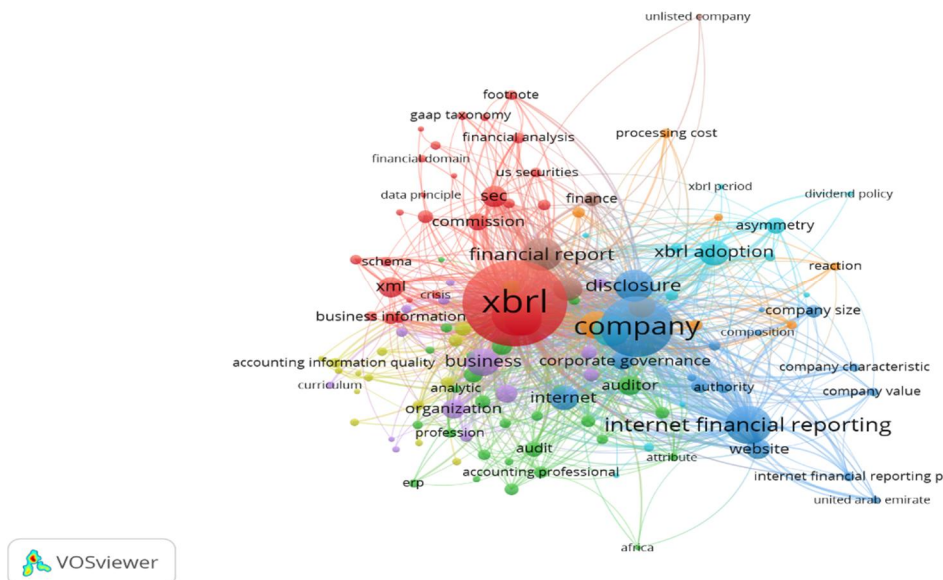
"continuous auditing" are the terms that are most fitting and appropriate with other terms. It is important to note that these words do not appear in Table 4 because they are not among the twenty most frequently occurring terms in the textual data, while they do appear in the general table presented by the VOSviewer program, which shows the 126 represented terms along with their frequency of occurrence and degree of relevance.

Table 4. The twenty most frequent words in the textual data

Rank	Title and Abstract Words	Occurrence	Rank	Title and Abstract Words	Occurrence
1	XBRL	1945	11	XBRL adoption	171
2	Company	936	12	Internet	157
3	Analysis	449	13	Benifits	155
4	Internet financialreporting (IFR)	372	14	Investor	136
5	Disclosure	282	15	XML	124
6	Financial report	280	15	SEC	124
7	Adoption	246	17	Website	112
8	Use	240	18	Organization	102
9	Financial reporting	198	19	Auditor	93
10	Business	194	20	Corporategovernance	89

Source: Compiled by researchers using VOSviewer program.

Figure 5. Co-occurrence of words in textual data of XBRL publications



Source: Developed by researchers using VOSviewer program.

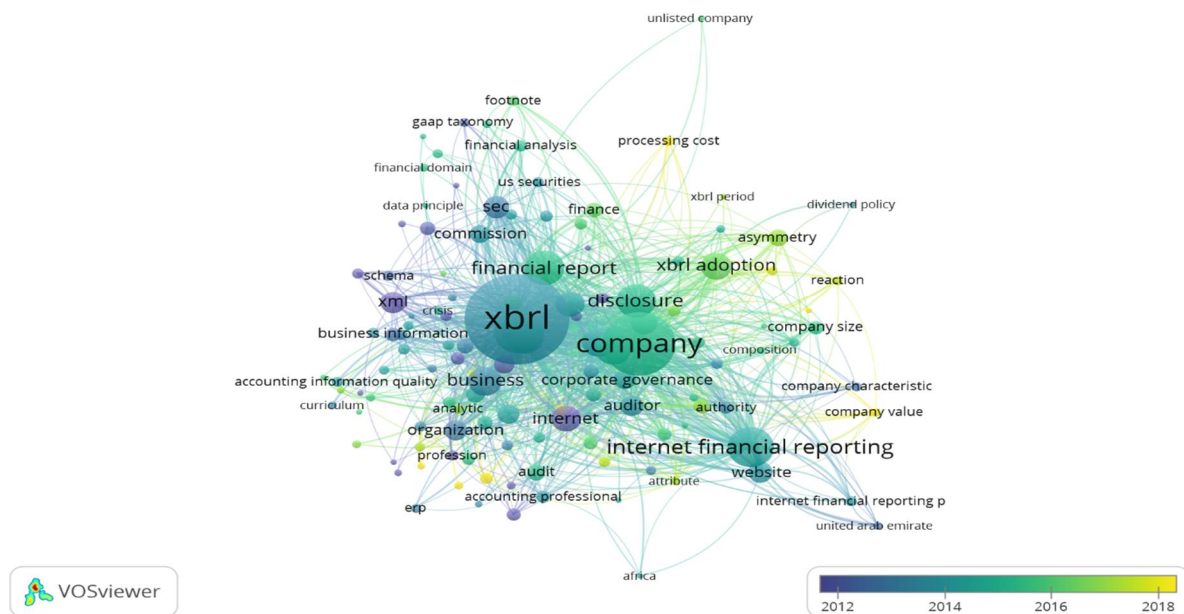
Figure 5 demonstrates the relational network of terms in the textual data of XBRL publications. The size of the circles represents the frequency of the term in the publications textual data, while the lines between the circles represent the strength of the relationship between them(Djeffal, 2019, p.211). Through this visualization, eight main groups within

this network are formed, connected by 3,308 links with an average association strength of 16.95:

The Red Group at the top left of the network includes terms such as "XBRL", "Business Information", "Financial Analysis", "Financial Aspect", "Semantic Web Technology", "SEC", "Accounting Principles", and "GAAP Taxonomy". This group seems to focus on the reality of exchanging and analyzing financial reports through XBRL and internet-supported technologies under legislative and regulatory standards. **the Green Group** at the bottom left includes "Accounting Information System", "Auditing", "Continuous Auditing", "Auditor", "Big Data", "Cloud Computing", "Enterprise Resource Planning". This group appears to address topics related to digital technologies in the fields of accounting and auditing. **The Dark Blue Group** includes "Company", "Company Characteristics", "Company Size", "Company Value", "Corporate Governance", "Disclosure", "Internet-Based Financial Reporting". It seems to address the effects of internet-based financial reporting on company behavior and performance. **The Yellow Group** includes "Accounting Information Quality", "International Financial Reporting Standards (IFRS)", "Consolidation", "Inline XBRL", "Taxonomy Extension", "Taxonomy Development", "Taxonomy Engineering". This group appears interested in organizing and developing concepts related to financial reports quality and analysis. **The Purple Group** includes significant terms like "Banking Sector", "Industrial Sector", "Trade", "Government Agencies", "Information Exchange", "Participation". This group can be said to address the topic of information exchange across various sectors. **The Light Blue Group** deals with various topics primarily related to "Adoption of Extended Business Reporting Language", "E-Government", "Dividend Policy", "Information Asymmetry". **The Orange Group** addresses the topic of investment through terms like "Foreign Investor", "Investor", "Investment Decision". **The Brown Group** includes "Finance", "Financial Reports", "Unlisted Companies", focusing on the financial reporting of enterprises not listed on stock market.

This detailed mapping and clustering of terms provide insights into the key focus areas within the XBRL literature, highlighting how different concepts and technologies intersect and interact within the domain.

Figure 6. Temporal distribution of words in textual data of XBRL publications



Source: Developed by researchers using VOSviewer program.

Using the overlay visualization feature provided by VOSviewer, Figure 6, which represents the chronological distribution of terms in the textual data of XBRL publications, shows that the terms "Big Data technology," "Cloud Computing," "Company Value," "Processing Costs," and "Inline XBRL" are the most recently appearing and spreading in the academic research field of XBRL. It appears that the current research trend is moving towards addressing topics related to emerging digital technologies and enhancing and developing the informational function of financial reporting.

This shift indicates a significant interest in how newer technologies can integrate with and potentially improve the financial reporting systems efficacy and efficiency, reflecting ongoing innovations and challenges in the field of financial communication. These terms suggest a focus on how technology can streamline processes, reduce costs, and provide more value and insight through advanced data analytics and reporting capabilities.

3.3 Content Analysis

The volume of research output on a topic does not necessarily reflect its quality (Mezghiche & Khaldi, 2023, p.121). The frequency of citations a publication receives is among the most effective and popular methods and metrics for determining its knowledge value and assessing its impact within both the scientific and academic community. Regarding the XBRL subject, the publications have been cited 10,978 times, with an average of 13.35 citations per publication. Meanwhile, 24.2% of the publications did not receive any citations, and 29.3% achieved more than ten citations. Regarding publications that have received more than sixty citations, they represent only 4.5% of the total number of publications.

This citation distribution highlights how certain works within the XBRL literature have significantly influenced the field, although a considerable proportion of the publications have not been cited. This suggests a disparity in the perceived relevance or quality of research within the topic, which is a common scenario in specialized academic fields.

Analyzing the most-cited publications provides a detailed look into the topics that garner significant attention from researchers and academics. For the subject of XBRL, the twenty most-cited publications were chosen. Analysis of Tabel 5 shows that the majority of these studies (65%) are quantitative in nature, while only (35%) are qualitative. All of these publications are scientific articles published in renowned journals. The "International Journal of Accounting Information Systems" holds the majority with five publications, followed by the "Journal of Information Systems" with three publications. Other Journals including "Accounting Review," "Journal of Accounting and Public Policy", and "Accounting Horizons" have two publications in this list. Debreceeny Roger is the most frequently appearing author, with three publications. It is noteworthy that (90%) of the publications in this list date back to before the year 2015.

Among these, the publication by(Hodge et al., 2004), is the most cited with 296 citations. This study examined how search engines supported by XBRL and other search-facilitating technologies could rationalize investment decisions for non-expert users of financial reports. And The most influential publication appears to be by(Mosteanu&Faccia, 2020), This article highlighted the impacts of implementing a comprehensive and integrated digital system including cloud computing, XBRL, AI, and blockchain on the accounting, financial, and tax environments.

The rest of the publications address a diverse range of topics such as:

ERP systems(Grabski et al., 2011), Environmental disclosure(Cho & Roberts, 2010), XBRL extensions(R. S. Debreceeny et al., 2011), Linked Data Technology(O'Riain et al., 2012), Corporate governance and operational performance(Premuroso& Bhattacharya, 2008), Analysts' forecast behavior (performance analysis)(Liu et al., 2014), Tax authority interests(Bozanic et al., 2017), Information asymmetry(Blankespoor et al., 2014; Yoon et al., 2011), Data and reporting quality(R. Debreceeny et al., 2010; R. Debreceeny& Gray, 2001; Hoitash&Hoitash, 2018; Vasarhelyi et al., 2012), SEC efforts to integrate XBRL into financial reporting(Plumlee & Plumlee, 2008), Pros and cons of adopting XBRL(Pinsker & Li, 2008), Internal and external factors of XBRL dissemination(Henderson et al., 2012), Measuring the extent of XBRL application(Troshani & Doolin, 2007), The effects of mandatory XBRL application on the financial and accounting environments(Kim et al., 2012).

Tabel 5. The 20 most cited publications on the topic of XBRL

R*	Author/Year**	Methodology	Objective	T.C	A.A.C
1	(Hodge et al., 2004)	Quantitative study	Examining the ability of search engines supported by XBRL and other search facilitation technologies to improve the transparency of financial reports and rationalize investment decisions for non-specialized users.	296	15.6
2	(Grabski et al., 2011)	Qualitative study	Providing a literature review, analyzing, summarizing, classifying and organizing research related to enterprise resource planning (ERP), providing a comprehensive overview regarding the intersection between this research field and accounting information system research.	283	23.6
3	(R. Debreceeny & Gray, 2001)	Qualitative study	Explaining the technical foundations of XBRL and its working mechanism, and the improvements it brings to the environment for preparing and displaying financial reports, while clarifying its role and the role of (XML) in enhancing and developing the operation of data over the Internet.	169	7.7
4	(R. Debreceeny et al., 2010)	Quantitative study	Analyzing the relationship between XBRL and data quality, by investigating the causes and extent of mathematical errors in financial reports presented in this language and in compliance with SEC's guidelines.	140	10.8
5	(Yoon et al., 2011)	Quantitative study	Investigating the extent to which expanded business reporting language can lessen the disparity in information amongst different parties within the financial market.	131	10.9
6	(Pinsker & Li, 2008)	Quantitative study	Identify important issues related to the implementation of XBRL, and help adopters benefit from the past experiences of the adopting companies.	112	7.5
7	(Blankespoor et al., 2014)	Quantitative study	Identify and analyze the effects of SEC's decision mandating XBRL on information symmetry and market liquidity.	107	11.9
7	(Kim et al., 2012)	Quantitative study	Pointing out the effects regarding mandatory disclosure of XBRL reporting on the financial information environment.	107	9.7
9	(Premuroso & Bhattacharya, 2008)	Quantitative study	Investigating the extent to which voluntary disclosure of XBRL based financial information, contributes to improving governance implementation and developing operational performance within the organization.	103	6.9
9	(Hoitash & Hoitash, 2018)	Quantitative study	Proposing a model for measuring and assessing the complexity of accounting reports, using the accounting elements	103	20.6

			disclosed in (10-K) filings.		
11	(Henderson et al., 2012)	Quantitative study	Identify the factors and determinants that govern the internal and external diffusion of XBRL	102	9.3
12	(Plumlee & Plumlee, 2008)	Qualitative study	Discuss the SEC's efforts to integrate XBRL into the financial reporting process, giving a overview of some of the technical characteristics and aspects of this language.	98	6.5
13	(Bozanic et al., 2017)	Quantitative study	Clarifying the effects of disclosure requirements according to SEC on the behavior of regulatory agencies responsible for taxes, as well as on the behavior of companies and their disclosures.	91	15.2
14	(Cho & Roberts, 2010)	Quantitative study	Using self-presentation theory to assess business web-based environmental disclosures from an organizational legitimacy standpoint.	85	6.5
15	(Liu et al., 2014)	Quantitative study	Illustrate the extent to which adopting Extensible Business Reporting Language contributes to improving and increasing the accuracy of analysts' forecasts about the organization's performance.	82	9.1
16	(R. S. Debreceeny et al., 2011)	Quantitative study	Examining patterns and usage trends of XBRL extensions in disclosure filings submitted to the SEC.	82	6.8
17	(O'Riain et al., 2012)	Qualitative study	Investigating how linked data technology can achieve integration between open data that is accessible online and data presented using XBRL.	79	7.2
18	(Mosteanu & Faccia, 2020)	Qualitative study	Determine the implications resulting from the application of an integrated and integrated system of digital technologies combining: cloud computing, (XBRL), artificial intelligence (AI), and Blockchain on the accounting, financial and fiscal environment.	78	26
19	(Troshani & Doolin, 2007)	Qualitative study	Providing an overall assessment regarding XBRL adoption in Australia, focusing on both social network and stakeholder theories.	76	4.8
20	(Vasarhelyi et al., 2012)	Qualitative study	Examining the extent to which Technology Acceptance Models (TAM) can improve the implementation of XBRL in financial reporting	72	6.5

***Using the same rank for two consecutive publications indicates that they have the same number of citations but a different annual citation rate.**

****For more bibliographic information about the publications listed in this table, you can check the references at the end of paper.**

Source: Prepared by researchers.

4. CONCLUSION

This study has provided a thorough evaluative look at research on the XBRL and its trends, through bibliometric analysis encompassing several indicators such as publication evolution, co-occurrence analysis of authors' keywords, and terms in textual data, in addition to content analysis of the most cited and influential publications, covering 822 publications from 1998 to 2022. Considering the two primary constraints that govern any bibliometric study—the source and timing of data extraction, the bibliometric indicators used in the analysis, and the type of study and its intended goals (Benzouai & Djeflal, 2021)—this study has yielded several notable findings:

- There has been a fluctuation and overall decline in XBRL publications over the past several years, reflecting a shift in academic research interest towards other topics and technologies in financial reporting preparation and presentation.
- The majority of XBRL publications dealt with themes related to the adoption and prospects of this language, financial analysis, financial reporting, disclosure, standardization, and governance, with a focus predominantly on economic enterprises.
- Topics linked with big data technology, cloud computing, analysis, processing costs, and corporate value have garnered significant attention in the academic research community in recent years.
- The 822 publications analyzed have accumulated a total of 10978 citations, averaging 13.35 citations per publication. However, 24.2% of these publications had no impact as they did not receive any citations, while only 4.5% of the publications had strong impact, achieving more than 60 citations.
- The publication by (Hodge et al., 2004) is the most cited among XBRL literature, while the paper by (Mosteanu & Faccia, 2020) has the highest impact, averaging 26 citations per year.
- The "International Journal of Accounting Information Systems", is the most prestigious and impactful journal on XBRL, holding 25% of the twenty most-cited publications.
- Publications addressing data quality and financial reporting, disclosure, SEC's decisions, and modern technologies are among the most influential within XBRL literature and attract considerable researcher interest.

These findings highlight the dynamic nature of XBRL research and its varying impact within the academic community, pointing to both enduring interests and emerging trends in the field of financial communication technologies.

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1. Books :

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2. Journal article:

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