



## eXtensible Business Reporting Language: A Way to Financial Reporting Digitalisation

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### *Abstract*

*In the fast-paced financial world of today, digital financial reporting has become a fundamental element of contemporary accounting and financial management. This cutting-edge method utilizes advanced digital tools and technologies to enhance the efficiency of preparing, presenting, and sharing financial information, revolutionizing the way organizations handle their financial data. As businesses grow more diverse and expand across borders, there has been a continuous global push to adopt standardized methods for recording information. Consequently, the adoption of XBRL (eXtensible Business Reporting Language) has accelerated in various countries. Notably, since the beginning of 2021, capital markets in 21 different countries have launched XBRL projects. In this context, the present study aims to analyze the trends and patterns in XBRL-related research from 2000 to 2024.*

**Keywords:** XBRL, project, trend, digitalisation, countries.

### **Introduction**

Technological advancements have fundamentally transformed how companies communicate with their shareholders and stakeholders. A significant development in corporate reporting frameworks worldwide is the emergence of XBRL (eXtensible Business Reporting Language). This standardized language, based on XML (extensible markup language), originated in the United States. Charles Hoffman, a member of the American Institute of Certified Public Accountants (AICPA), is credited as the father of XBRL. In 1998,



Hoffman, inspired by a newly released book on XML, envisioned a standardized method for exchanging information in the accounting and finance sectors. This led to the development of XBRL, which has since been adopted by numerous regulators globally as a reporting standard for various business organizations.

Hoffman publicly demonstrated XBRL on July 31, 2000, marking the release of the first specification and taxonomy according to U.S. GAAP for U.S. companies. In India, the Ministry of Corporate Affairs mandated the adoption of XBRL in 2011, initially for a specific class of companies.

XBRL comprises two main components: taxonomies and instance documents. Taxonomies act as dictionaries, defining the concepts to be reported and their presentation, while instance documents present these concepts and facts as tags defined in the taxonomies. These components convert company reporting information into a machine-readable format, facilitating easy and instantaneous information processing by computers. To enhance usability, the statements are rendered in a human-readable format. Compared to traditional reporting mediums like Word, spreadsheet, PDF, or HTML, XBRL provides a more streamlined reporting method, benefiting both organizations and information users. XBRL enhances transparency and allows users to analyze retrieved information more conveniently (Janvrin, et al., 2013).

Digitalization has revolutionized business operations in an era of technological advancement. As businesses diversify and expand globally, there is a continuous need for standardized information recording to ensure smooth information exchange and extraction among various users. The subsequent sections review the literature on XBRL studies, discuss research methodology, analyze XBRL trends, and evaluate XBRL projects. The study concludes with a summarized view of the findings.

## **Literature review**

The adoption of XBRL has offered numerous advantages, ranging from easy extraction, transparency to convenient analysis of retrieved information. In light of this, a number of studies have been made in India and around the world. Lakovicetal (2018) analysed the extent and usefulness of standardisation of the formats in which different firms



reported their financial statements in the emerging economies like Montenegro. Muchlis et al.(2018) examined the determinants of the firms that adopted XBRL in the early phases of its implementation in Indonesia. Illias et al. (2018) examined the perception and level of awareness about XBRL among the accountants and auditors of Malaysia. Abhishek et al.(2019) made a conceptual study to determine the issues and challenges faced after implementation of XBRL in India. Abed(2018) made an attempt to study the perception of professionals associated with public companies and regulatory authorities of Amman-Jordan, with regard to awareness and adoption of XBRL. Ashok and Abhishek (2019) determined the role of integrated reporting and perceived importance and challenges of XBRL in integrated reporting. Azhar(2019) made an attempt to study the impact of adoption of XBRL in the emerging countries. Ashoka et al.(2020) made an attempt to analyse the effect of adoption of XBRL on the financial reporting aspects and auditing of the information reported by the businesses. Mittelbach - Hoermanseder et al.(2021) discussed the scope of adoption of XBRL from the perspective of preparers of the financial information. Alkayed and Zikhan (2023) made an attempt to examine the challenges of emerging economies in adoption of XBRL as a digital financial reporting language. For the purpose various stakeholders banking firms, insurance companies and distinct business were surveyed.

It was inferred from the review that yet no study has been made for examining the extent of implementation of XBRL projects across countries. The present study is an endeavour to study the trend and pattern of research made on XBRL from the year 2000 to 2024.

### **Research Methodology**

Research methodology defines the ways of conducting the research to achieve the stated objectives. Accordingly, to study the trend and pattern of research made on XBRL, the studies were retrieved from 'dimensions database'. In the keyword search, "XBRL" was used to make a research in title and abstract of the publications, to retrieve the documents available for a period ranging from 2000-2023. A total of 1159 studies were retrieved from the database. In addition to this, the citation metrics for the respective period was also retrieved. The year 2000 has been taken as the first year because it was the year when first XBRL specification was developed and hence XBRL was made public.

### **Analysis and findings**



### Trend and pattern of research on “XBRL”

Table 1 shows the pattern of XBRL publications since 2000. In the year 2000 there was just one publication on XBRL titled “The language of risk: why the future of risk reporting is spelled XBRL”. The study is authored by Charles Garthwaite. It was published in the “The Journal of Risk Finance”. After this, there was steady jump in the number of publications in the year 2001. The increase in the number of publications continued till 2012, but the rate of increase was slow. After a fall in the rate of publications in 2013, a fluctuating pattern of publications has been observed. The highest rate of increase in the number of publications on XBRL was registered in the year 2021, with 84 publications on XBRL.

**Table 1: Pattern of publications**

<b>Year</b>	<b>Publications (total)</b>
2000	1
2001	8
2002	10
2003	9
2004	16
2005	15
2006	17
2007	36
2008	36
2009	46
2010	55
2011	60
2012	73
2013	68
2014	67
2015	60
2016	62
2017	56
2018	73
2019	61
2020	77
2021	84
2022	76
2023	74

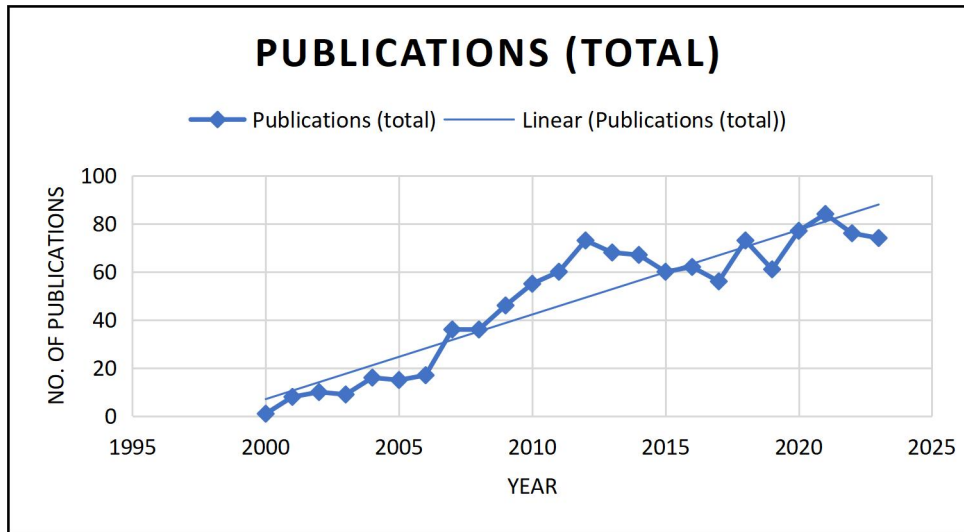


Figure 1: Pattern of publications

### Citation Metrics

The quality of the publications or the author’s research work can also be evaluated using the citation analysis. In other words, the frequency with which the work gets cited by other also reflects the quality of a research work. Table 2 illustrates the citations from the year 2000 to 2023. The table shows that overall the citations have increased over the number of years. It indicates the importance being received by the subject area for making further research in the field and exploring its more applications and benefits.

Table 2: Pattern of citations

Year	Citations
2000	0
2001	1
2002	4
2003	7
2004	18
2005	18
2006	46
2007	72
2008	70
2009	156
2010	174
2011	361
2012	369
2013	542
2014	703
2015	628
2016	551



2017	605
2018	861
2019	725
2020	899
2021	1265
2022	938
2023	1150

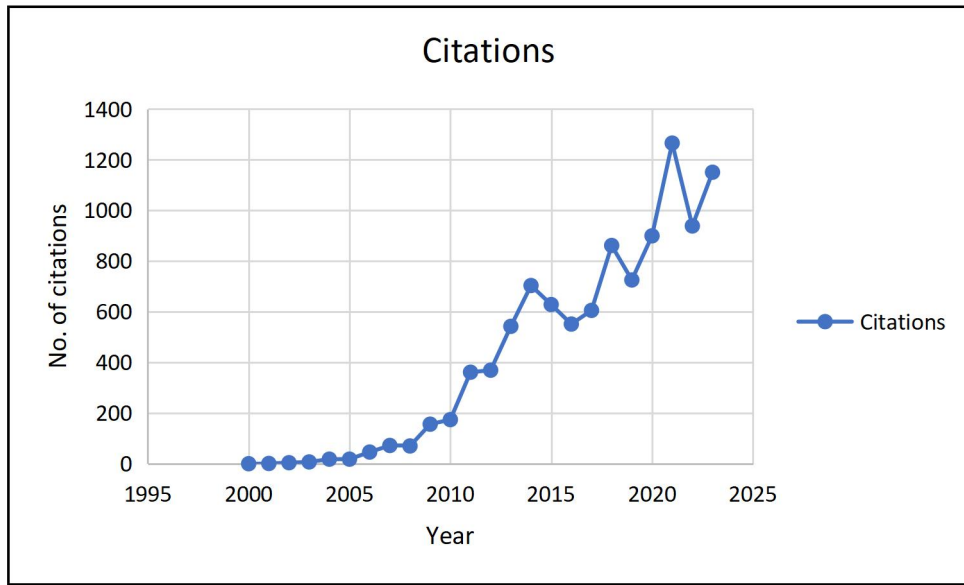


Figure 2: Pattern of citations

**Top 5 sources of publications**

Table 3 lists the top 5 sources in which the studies on ‘XBRL’ were published. It revealed that SSRN electronic journal consisted of top number of publications (n=126), followed by Journal of Information Systems (n=47), Lecture notes in Computer Science (n=25), International Journal of Accounting Information Systems (n=22) and Journal of Emerging Technologies in Accounting (n=18).

**Table 3: Top 5 sources of publications**

Source Name	Publications	Citations	Citations mean
SSRN Electronic Journal	126	436	3.46
Journal of Information Systems	47	1,506	32.04
Lecture Notes in Computer Science	25	129	5.16
International Journal of Accounting Information Systems	22	980	44.55
Journal of Emerging Technologies in Accounting	18	298	16.56



## Conclusion

The pace of technological strides has changed the way the companies communicate with their shareholders and stakeholders. In this sense, there was a significant need to study the pattern of development for the adoption of standardised language across countries, and the extent of project implemented for the adoption of language to more diverse sectors of the economies of the countries. The results revealed that in the initial years, an increasing trend in rate of publications was been registered. But after 2012, a fluctuating pattern in the rate of publications was noticed. While, with regard to implementation across countries, till date 184 projects have been implemented across 60 countries. Additionally, top sources with publications on 'XBRL' was also explored, which showed that maximum number of studies were recorded in SSRN electronic journal. In India, a number of projects have been implemented since 2009 by the Reserve Bank of India, Ministry of Corporate Affairs, different stock exchanges, Securities and Exchange Board of India and criminal investigation department of Maharashtra respectively.

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