eXtensible Business Reporting Language: a study of trend and implementations

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Abstract

Digitalisation has altered the ways businesses operate and exist in the changing times of technology advancements. With businesses becoming more diverse and expanding across boundaries, a continuous need has been felt by different countries and organisations around world to adopt a standard way of recording the information. Hence there is increase in the pace of XBRL adoption by different countries. From the beginning of 2021 only, capital markets of 21 different countries have implemented XBRL projects. In light of this, the present study aims to study the trend and pattern of research made on XBRL from the year 2000 to 2021. Further, the evaluation of the extent of implementation of XBRL projects across countries, with special reference to India will also be carried out. 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. On the other hand, with regard to implementation across countries, till date 184 projects have been implemented across 60 countries. With reference to India, Reserve bank of India, Ministry of Corporate Affairs, different stock exchanges, Securities and Exchange Board of India and criminal investigation department of Maharashtra have implemented a number of XBRL projects since 2009.

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

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1. Introduction

The pace of technological strides has changed the way the companies communicate with their shareholders and stakeholders. A major development that has occurred in the field of reporting framework of the companies across the boundaries is the emergence of XBRL-eXtensible Business Reporting Language. This standardised language is based on XML-extensible mark-up language and has its origin in U.S.A. Charles Hoffman, a member of American Institute of Certified Public Accountants (AICPA), has been credited as being the Father of XBRL. He was the person who embarked the concept of XBRL in the year 1998, which today has been accepted by a number of regulators as a form of reporting to be followed by different business organisations. It was the year 1998 when Charles Hoffman found a newly released book on extensible mark-up language (XML) at a book store. With a keen interest in mind of finding something new that can transform the way the information travels from one user to another, he noticed that the book on XML contained the contents related to information transmission only. From that, he thought of developing a standard way of transforming the ways and means of information exchange in accounting and finance field too. Over a period of time, after arranging for the funding of prototype of the project and finding members ready for adoption of the standard, XBRL was firstly demonstrated in public on July 31, 2000. In this year first if its specification and taxonomy according to U.S. GAAP was released for U.S. companies. In India, Ministry of Corporate Affairs announced mandatory adoption of XBRL in 2011. In the first phase its adoption was made mandatory only for a certain class of companies.

The language consists of two components i.e. XBRL taxonomies and XBRL instances. The former contains the concepts to be reported and the way they are to be reported, while the latter includes the presentation of the concepts as defined in the taxonomies. More precisely, taxonomies are like dictionaries that are used by the companies to prepare the reporting document known as instance document. While instance documents contains the presentation of concepts and their facts in the form of tags as defined in the taxonomies. These two components are the inclusive parts of converting the reporting information of the companies into machine readable format, which is the exclusive way of presentation of the information. Being machine readable, the processing of information becomes a quite easy and instantaneous task for the computers. While, to make it user friendly, the statements are rendered to make them understandable and readable for the humans. Relative to other mediums of reporting used by the companies over the years, vis-à-vis word, spread sheet, PDF or html, XBRL provides a streamlined way of reporting for the organisations. This has benefitted only the organisations but also the users of their information. This is because the information reported by the organisations using XBRL offers more transparency and enables the users of the information to make the analysis of the retrieved information in a more convenient way(Janvrin, et al., 2013). Thus, digitalisation has altered the ways businesses operate and exist in the changing times of technology advancements. With businesses becoming more diverse and expanding across boundaries, a continuous need has been felt by different countries and organisations around world to adopt a standard way of recording the information, in order to ensure smooth exchange and extraction of information between different users of that information. The next section

presents the review of literature made on XBRL studies, then research methodology has been discussed, finally analysis of XBRL trend and evaluation of XBRL projects has been made. In the last section summarised view of the study has been presented in conclusion form.

2. Literature review

The adoption of XBRL has offered numerous advantages, ranging from easy extraction, transparency to convenient analysis of retrieved of 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.

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 2020. Further, the evaluation of the extent of implementation of XBRL projects across countries, with special reference to India will also be carried out.

3. 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 2000-2021. A total of 939 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. On the other hand, to evaluate the extent of XBRL projects across countries, with special reference to India, websites of XBRL International and XBRL India were explored.

4. Analysis and findings

4.1 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 79 publications on XBRL.

Table 1: Pattern of publications

| Year	Publications (total)	Percentage(%)	Cumulative Percentage(%)
2000	1	0.107526882	0.107527
2001	7	0.752688172	0.860215
2002	9	0.967741935	1.827957
2003	10	1.075268817	2.903226
2004	12	1.290322581	4.193548
2005	13	1.397849462	5.591398
2006	17	1.827956989	7.419355
2007	34	3.655913978	11.07527
2008	34	3.655913978	14.73118
2009	42	4.516129032	19.24731
2010	55	5.913978495	25.16129
2011	60	6.451612903	31.6129
2012	73	7.849462366	39.46237
2013	60	6.451612903	45.91398
2014	63	6.774193548	52.68817
2015	59	6.344086022	59.03226
2016	55	5.913978495	64.94624
2017	54	5.806451613	70.75269
2018	69	7.419354839	78.17204
2019	61	6.559139785	84.73118
2020	72	7.741935484	92.47312
2021	79	8.494623656	100.9677
Total	**939**	**100**	
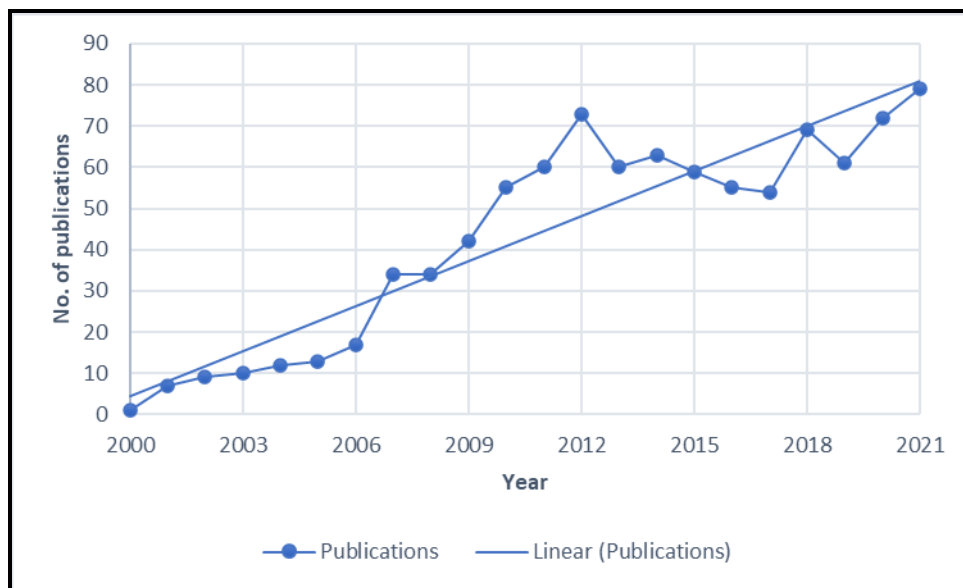
Figure 1: Pattern of publications

4.2 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 citation metrics. It summarises the citation metrics for the retrieved documents from dimensions database for the period spanning between 2000 and 2020. It reveals that 7918 citations have been reported in the last 21 years (2000-2020) with average citations of 359.91 per year. 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 : Citation metrics

Publication years	2000-2021
Citation years	22
Citations	7918
Cites per year	359.91
Cites per paper	8.43

4.3 XBRL Projects: A number of projects on XBRL have been implemented by different financial regulators, securities markets, taxation authorities among others from 60 countries around the world.

4.3 a) Distribution of XBRL projects

Table 4 presents the number of projects implemented in different countries till date. From the year 2001 onwards, 184 projects have been implemented. India has implemented 5 projects till date.

Table 4: Country wise implementations of XBRL projects

S.No.	Name of the country	No. of Projects
1	Australia	5
2	Austria	1
3	Belgium	5
4	Brazil	1
5	Bulgaria	2
6	Chile	2
7	China	7
8	Colombia	3
9	Croatia	2
10	Cyprus	2
11	Czech Republic	1
12	Denmark	5
13	Estonia	5
14	EU	3
15	Finland	5
16	France	7
17	Georgia	1
18	Germany	7
19	Greece	3
20	Hungary	2
21	Iceland	1
22	India	5
23	Indonesia	4
24	Ireland	4
25	Israel	2
26	Italy	5
27	Japan	5
28	Kuwait	1
29	Latvia	3
30	Liechtenstein	3
31	Lithuania	1
32	Luxembourg	3
33	Malaysia	2
34	Malta	3
35	Mauritius	2
36	Mexico	1
37	Netherlands	15
38	Norway	3
39	Peru	1
40	Poland	3
41	Portugal	3
42	Qatar	2
43	Romania	1
44	Russia	1
45	Saudi Arabia	2
46	Singapore	1
47	Slovak Republic	1
48	Slovakia	1
49	Slovenia	1
50	South Africa	2
51	Spain	8
52	Sweden	4
53	Taiwan	1
54	Thailand	1
55	Turkey	2
56	Ukraine	1
57	United Arab Emirates	1

58	United Kingdom	9
59	United States	5
60	Uruguay	1

4.3 (b) XBRL projects in India: The Indian projects have been implemented by Bombay Stock Exchange, Ministry of Corporate Affairs, Reserve Bank of India, and Securities and Exchange Board of India. The following section discusses the adoption of XBRL projects in India:

(A) Reserve Bank of India(RBI) : In the year 2009, RBI was the first to opt for online reporting in XBRL format in India. For the purpose, it had created a separate portal (https://orfs.rbi.org.in/) for enabling filing of returns in XBRL format by the banks. In the year 2016, the efforts of RBI were also recognised by XBRL International and thus "XBRL International Award for Excellence" was awarded to RBI for its endeavour in utilising XBRL format particularly for the purpose of collection of data. In the year 2020, RBI mandated Urban Cooperative banks (UCBs) to report their exposures in XBRL format. Accordingly, all the UCBs having assets more than Rs. 5 crore are required to make quarterly filings of the exposures in XBRL format to Central Repository on Information on Large Credits(CRILC).

(B) Ministry of Corporate Affairs: The first mandatory adoption of XBRL in India was carried out by Ministry of Corporate Affairs. The two major project of Ministry of Corporate Affairs are as follows:

   (a)   Filing of XBRL financial statements by companies: The project was related to adoption of XBRL by the companies in a phased manner for the financial year commencing from 31st March, 2011.

   (i) Applicability: In the first phase, the specified companies were required to file their XBRL financial statements upto 30th September, 2011. manufacturing and service sector companies listed in India, their Indian subsidiaries and companies having paid up capital and turnover of Rs. 5 crores and Rs. 100 crores respectively were mandated to file their financial statements in XBRL format. While power sector companies, non-banking finance companies(NBFCs), banking companies and insurance companies were kept out of purview of the mandate. But wide notification dated 6th November, 2017 by Ministry of Corporate Affairs, the mandate was extended to power companies also. Thus, presently, only following class of companies are required to file their financial statements and other documents in XBRL format:

* Companies which are listed on stock exchanges in India and their subsdiaries in India
* Companies which are having paid up capital of rupees five crore or more
* Companies which are having turnover of rupees hundred crore or more
* Companies which are required to prepare the financial statements as per Companies (IAS) Rules, 2015.

   (ii)   Filing with Registrar and validation: The companies are required to file their financial statements in specified e-forms to the Registrar of companies. The companies which were preparing their financial statements as per Schedule VI of the Companies Act, 1956 were required to file their financial statements in Form 23 AC XBRL and 23ACA XBRL.

These were two separate forms for filing of profit and loss account and balance sheet of the company respectively. With applicability of new Schedule III of the Companies Act, 2013 on the companies, new e-form ÁOC-4 XBRL has been made available. This is one single form with which the companies are required to attach its XBRL financial statements, i.e. instance documents of balance sheet and profit and loss account.

Before filing of the specified e-forms, the companies have to validate their instance documents with the help of validation tool made available at the MCA 21 portal (https://mca.gov.in/XBRL/valfy15.html). The 'validated' feature provided by the validation tool ensures that the instance documents have been prepared by the companies as per requirements of the applicable taxonomy and the business. It doesn't indicate compliance of the provisions of the Companies Act given under section 137.

(b) Filing of Cost audit report and compliance report: Commencing from the 2011-12 financial year only, the cost auditors were also mandated to file their cost audit reports and compliance report in the XBRL format.

(C) Bombay Stock Exchange (BSE): India's oldest exchange, became the first exchange in India for implementing XBRL project through its portal "Listing Centre" , designed for filing in XBRL format by the listed companies. XBRL format has been adopted for all listed companies by the exchange for the following:

(i) Filing of Corporate Governance Report in 2015: In 2015 BSE decided to shift from acceptance of submission of shareholding pattern and Corporate Governance Report in XBRL Format. Having received good response from the companies, it made filing of corporate governance report and shareholding pattern mandatory for all the companies listed on the exchange from the year 2016.

(ii) Filing of financial results by Insurance companies: In January, 2019 BSE extended the mandate to listed life and non-life insurance companies. Accordingly, the companies have been made mandatory to file their financial results in XBRL format.

(iii) Filing of financial statements by the companies: In February 2019 the mandate was further extended to listed companies. With this, all the companies listed on Bombay Stock Exchange have been made mandatory to file their annual report to the exchange in XBRL format. Along with this, the companies will be required to quarterly file the statement of variation in XBRL mode.

(D) Securities and Exchange Board of India: In 2012, SEBI had proposed setting up of a common platform, SUPER-D(SEBI Unified Platform for Electronic Reporting and Dissemination) for reporting in XBRL format by the listed companies. Then it was decided to include mutual fund companies for filing reports in XBRL format.

(E) Some other XBRL implementations in India: In addition to the above projects, XBRL has also been adopted in state of Maharashtra. The project was announced by Criminal Investigation Department in the year 2016 for publishing its yearly publication of crime statistics in XBRL format.

Further, by the year 2018, in addition to BSE, National Stock Exchange (NSE) and Metropolitan Stock Exchange(MSE) had also adopted XBRL reporting for the listed companies.

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. 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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