

DIGITAL FINANCIAL REPORTING TRANSFORMATION: AN EMPIRICAL STUDY OF XBRL AWARENESS AND UNDERSTANDING AMONG CHARTERED ACCOUNTANTS

Deepinder Kaur

Research Supervisor, Associate Professor and Head
P.G. Dept. of Commerce, Mata Gujri College, Fatehgarh Sahib (Punjab).

Bikramjit Singh

Research Supervisor, Associate Professor and Head
P.G. Dept. of Commerce, Mata Gujri College, Fatehgarh Sahib (Punjab).

ABSTRACT

The study examines the awareness and understanding of eXtensible Business Reporting Language (XBRL) among Chartered Accountants (CAs), along with their perceptions of its benefits and obstacles. Primary data were collected through a structured questionnaire administered to 100 CAs registered with NIRC of ICAI, out of which 88 valid responses from aware participants were analyzed. Descriptive statistics, including percentages, mean scores, and standard deviation, were used for analysis. The findings indicate moderate awareness but limited conceptual understanding of XBRL. While respondents strongly acknowledge its benefits such as improved accuracy and efficiency, several challenges, including lack of training, technical complexity, and cost, hinder its adoption. The study highlights the need for professional training and awareness initiatives to facilitate effective implementation of XBRL in financial reporting.

Keywords: XBRL, digital reporting, awareness, Chartered Accountants, financial reporting.

1. INTRODUCTION

Digital transformation has significantly reshaped financial reporting practices across the globe, leading to the emergence of structured and standardized reporting formats such as eXtensible Business Reporting Language (XBRL). XBRL is a globally recognized digital reporting framework that enhances the accuracy, comparability, and transparency of financial information. Regulatory bodies and organizations increasingly mandate its adoption to improve the efficiency of financial reporting systems and facilitate better decision-making among stakeholders. In India, regulatory authorities such as the Ministry of Corporate Affairs (MCA) have emphasized XBRL-based filings to streamline compliance and reporting mechanisms.

Despite its growing relevance, the successful implementation of XBRL largely depends on the awareness, understanding, and perception of professionals responsible for financial reporting, particularly Chartered Accountants (CAs). As key stakeholders in financial reporting, CAs play a crucial role in adopting and implementing digital reporting standards. However, the transition from traditional reporting to XBRL-based systems requires not only technical knowledge but also a positive perception of its benefits and manageable obstacles.

Existing literature suggests that while XBRL adoption offers numerous advantages, including improved data accuracy, automation, and enhanced accessibility, its implementation is often hindered by factors such as lack of awareness, insufficient training, and technical complexity (Ahmi & Nasir, 2019; Perdana et al., 2018). Furthermore, studies have highlighted that

professionals' understanding of XBRL concepts significantly influences their willingness to adopt the technology (Yoon et al., 2019).

The present study aims to examine the awareness and understanding levels of Chartered Accountants regarding XBRL, along with their perceptions of its benefits and obstacles. Specifically, the study is guided by the following objectives:

1. To assess the level of awareness of XBRL among Chartered Accountants.
2. To evaluate their conceptual understanding of XBRL.
3. To analyze perceived benefits associated with XBRL adoption.
4. To identify key obstacles hindering its implementation.

By addressing these objectives, the study contributes to understanding the readiness of accounting professionals toward digital financial reporting transformation. The findings are expected to provide insights for policymakers, educators, and professional bodies to design targeted training and awareness programs, thereby facilitating smoother adoption of XBRL in practice.

2. LITERATURE REVIEW

Recent studies have explored XBRL adoption from multiple perspectives. Perdana et al. (2018) found that awareness and perceived usefulness significantly influence XBRL adoption among accounting professionals. Similarly, Ahmi and Nasir (2019) reported that lack of technical knowledge and training remains a major barrier to its implementation. Yoon et al. (2019) emphasized that XBRL enhances financial transparency and comparability, thereby improving decision-making processes.

Janvrin and No (2020) highlighted that professional accountants often struggle with understanding XBRL taxonomy, which limits its effective use. Tawiah and Gyapong (2020) observed that regulatory pressure plays a crucial role in driving adoption, particularly in developing economies. Al-Htaybat et al. (2021) indicated that digital reporting frameworks improve financial reporting quality but require significant organizational readiness.

Further, Saha et al. (2022) identified that perceived benefits such as automation and reduced errors positively influence professionals' attitudes toward XBRL. However, Kılıç and Kuzey (2022) noted that cost and system complexity remain critical challenges. More recently, Sharma and Gupta (2023) found that younger professionals demonstrate higher awareness and adaptability toward XBRL systems.

Singh and Verma (2024) emphasized the need for continuous professional education to bridge knowledge gaps. Additionally, Kumar et al. (2025) concluded that while awareness levels are improving, practical understanding and implementation capabilities remain limited among accounting professionals.

3. RESEARCH METHODOLOGY

The present study is based on primary data collected through a structured questionnaire designed to examine four key dimensions of XBRL adoption: awareness, conceptual understanding, perceived benefits, and perceived obstacles. The questionnaire was carefully developed to capture both general familiarity with XBRL and deeper insights into its practical implications in financial reporting.

A non-probability sampling technique was adopted for data collection, and the questionnaire was circulated among Chartered Accountants registered with the Northern India Regional

Council (NIRC) of the Institute of Chartered Accountants of India (ICAI). Participation in the survey was voluntary, and respondents were assured of confidentiality and anonymity to encourage honest and unbiased responses.

A total of 100 responses were initially collected. However, only 88 respondents indicated that they were aware of XBRL, while 12 respondents reported that they had never heard of it. In accordance with the study design, the questionnaire was divided into two parts. The first part assessed the level of awareness of XBRL among all respondents. The second part, which focused on evaluating conceptual understanding, perceived benefits, and perceived obstacles to XBRL adoption, was administered only to those respondents who demonstrated awareness of XBRL. Consequently, the detailed analysis of understanding, benefits, and obstacles is based on the responses of 88 Chartered Accountants.

This approach ensured that responses related to advanced aspects of XBRL were obtained only from participants with at least a basic level of familiarity, thereby enhancing the validity and reliability of the findings.

For data analysis, descriptive statistical techniques were employed. Percentage analysis was used to evaluate awareness levels, while mean scores and standard deviation were calculated to assess perceptions regarding benefits and obstacles. These statistical tools facilitated a comprehensive understanding of the trends and patterns in respondents' perceptions toward XBRL adoption.

4. RESULTS AND DISCUSSION

The results of the study are presented in this section in line with the research objectives. The analysis focuses on examining the awareness, understanding, perceived benefits, and obstacles associated with XBRL adoption among Chartered Accountants. Descriptive statistical techniques, including percentage analysis, mean scores, and standard deviation, have been used to interpret the data. The findings are presented through tables, followed by their interpretation.

Table 1: Demographic information

		Percent
Gender	Male	77
	Female	23
Experience	0-4 years	31
	4-10 years	35
	10-14 years	11
	Above 14 years	23
Age	< 30 years	44
	31-40 years	34
	41-50 years	11
	51-60 years	8
	> 60 years	3
Income	upto 30,000	8
	30,000 to 60,000	13
	60,000 to 90,000	27
	More than 90,000	52

Table 1 presents the demographic profile of the Chartered Accountants who were surveyed to examine the awareness and understanding level of XBRL. The demographic profile of Chartered Accountants (CAs) surveyed indicates a sample largely dominated by male respondents (77%), with females accounting for 23%, reflecting a gender imbalance within the dataset. In terms of professional experience, the majority of participants fall within the

early to mid-career stages, with 35% having 4–10 years of experience and 31% having less than 4 years, while only a smaller proportion (34%) possess more than 10 years of experience. The age distribution further supports this trend, as 78% of respondents are below 40 years, suggesting a relatively young cohort. Additionally, the income distribution reveals that most respondents are financially well-established, with 52% earning above ₹90,000 and 27% within the ₹60,000–₹90,000 range.

Overall, the sample predominantly represents younger, moderately experienced, and higher-income professionals. This composition implies that the awareness and understanding levels observed in the study are likely influenced by recent education, current industry practices, and access to professional resources, rather than extensive long-term experience.

Table 2: Awareness level of CAs

Statements	Percentage of respondents
I have never heard of it	12%
I have heard of it, but do not know what it is about	28%
I have heard of it and am aware of it	60%

Tabel 2 presents the awareness levels of XBRL among Chartered Accountants (CAs). Among Chartered Accountants, 12% reported that they have never heard of XBRL, while 28% stated that they have heard of it but do not know what it is about. Together, this indicates that 40% of CAs lack adequate awareness. However, a majority of 60% reported that they have heard of XBRL and are aware of it, suggesting that more than half of the CA respondents possess at least a basic level of understanding.

Table 3: Understanding of XBRL among CAs

Statements	No. of respondents	Percentage of respondents
I was aware of XBRL but did not understand the basic concepts	30	34.1%
I understand the basic concepts of XBRL	45	51.1%
I understand fully what XBRL is about	13	14.8%

Table 3 presents the level of understanding of XBRL among Chartered Accountants (CAs). The level of conceptual understanding of XBRL among Chartered Accountants was assessed based on responses obtained from 88 participants who indicated prior awareness of XBRL. As presented in the table, 51.1% of respondents reported that they understand the basic concepts of XBRL, representing the largest proportion within the sample. This suggests that while a majority of aware respondents possess foundational knowledge, their understanding may be limited to general principles rather than advanced application.

In contrast, 34.1% of respondents indicated that although they were aware of XBRL, they did not understand its basic concepts. This highlights a significant gap between awareness and actual comprehension, implying that exposure to XBRL does not necessarily translate into meaningful understanding. Furthermore, only 14.8% of respondents reported a complete understanding of XBRL, indicating that a relatively small proportion of professionals possess in-depth knowledge of the framework.

Table 4: Potential benefits of XBRL

Potential Benefits	SA	A	N	DA	SDA	MEAN SCORE	STD. DEV.
Increased accuracy of data	39 (44.3%)	34 (38.6)	15 (17%)	0 (0.0%)	0 (0.0%)	4.272	0.738
Automatic validation	43	37	8	0	0	4.397	0.653

	(48.9%)	(42%)	(9.1%)	(0.0%)	(0.0%)		
Enhanced access to information	40 (45.5%)	38 (43.2%)	8 (9.1%)	2 (2.3%)	0 (0.0%)	4.318	.735
XBRL can reduce the re-keying of financial data	37 (42%)	32 (36.4%)	18 (36.4%)	1 (20.5%)	0 (0.00%)	4.193	.800
XBRL reduces the cost of generating financial reports	36 (40.9%)	30 (34.1%)	19 (21.6%)	3 (3.4%)	0 (0.00%)	4.125	.868
XBRL-based reports can be re-used with no loss in data integrity	37 (42%)	32 (36.4%)	18 (20.5%)	1 (1.1%)	0 (0.00%)	4.193	.803
Use of XBRL can provide Interoperability with other existing applications/ systems	26 (29.5%)	45 (51.1%)	17 (19.3%)	0 (0.00%)	0 (0.00%)	4.102	.695
XBRL can contribute to speeding up the reporting cycle	42 (47.7%)	33 (37.7%)	13 (44.8%)	0 (0.00%)	0 (0.00%)	4.329	.723
XBRL fosters data comparability	34 (38.6%)	37 (42%)	17 (19.3%)	0 (0.00%)	0 (0.00%)	4.193	.740
XBRL can be used to produce more analytical tools	36 (40.9%)	39 (44.3%)	12 (13.6%)	1 (1.1%)	0 (0.00%)	4.250	.731
XBRL can help reducing processing Errors	37 (42%)	33 (37.5%)	18 (20.5%)	0 (0.00%)	0 (0.00%)	4.216	.764
XBRL- enabled information can be a reliable source for the preparation of financial/ non-financial reports	43 (48.9%)	29 (33%)	16 (18.2%)	0 (0.00%)	0 (0.00%)	4.306	.763
Accomplish requirements of reporting standards	40 (45.5%)	30 (34.1%)	18 (20.4%)	0 (0.00%)	0 (0.00%)	4.306	.763

Table 4 shows the perceived benefits of XBRL as assessed by Chartered accountants (CAs) on a five point likert scale (5=Strongly Agree, 1= Strongly Disagree). The results indicates a higher level of agreement in context of perceived benefits of XBRL among them. This is reflected from the weighted mean scores which is above 4 across all the benefits. Specifically, it lies between 4.102 and 4.397 and standard deviation. While, relatively low standard deviations, ranging between 0.653–0.868 indicate high consistency and consensus among the respondents. The highest mean score was recorded for automatic validation (Mean = 4.397), suggesting that CAs strongly agree that XBRL enhances accuracy in reporting through its built-in validation mechanisms. Similarly, the high mean scores for speeding up the reporting cycle (4.329), enhanced access to information (4.318), and reliability in financial report preparation (4.306) suggest that professionals perceive XBRL as improving timeliness, transparency, and decision usefulness. Furthermore, the positive perceptions regarding improved data accuracy (4.272) and reduction in processing errors (4.216) received strong agreement, suggesting that respondents recognize the role of structured digital tagging and automation in minimizing manual errors and improving data quality. Although interoperability with existing systems (4.102) received the lowest mean, it still indicates agreement and supports indicating that respondents acknowledge system integration as an advantage of XBRL implementation.

Table 5: Obstacles in the way of adoption of XBRL (CA)

To what extent do you agree that the following are significant obstacles to the adoption of XBRL by potential users?

Reasons	SA	A	N	DA	SDA	MEAN SCORE	STD. DEV.
Awareness about XBRL and its advantages	43 (48.9%)	35 (39.8%)	10 (11.4%)	0 (0.00%)	0 (0.00%)	4.375	.683

Complexity of XBRL	32 (36.4%)	42 (47.7%)	13 (14.8%)	1 (1.1%)	0 (0.00%)	4.193	.725
Time and effort needed to learn about XBRL	32 (36.4%)	43 (48.9%)	11 (12.5)	2 (2.3%)	0 (0.00%)	4.193	.740
Lack of IT expertise necessary to implement XBRL	33 (37.5%)	37 (42%)	15 (17%)	3 (3.4%)	0 (0.00%)	4.136	.819
Lack of XBRL training	37 (42%)	39 (44.3%)	10 (11.4%)	2 (2.3%)	0 (0.00%)	4.261	.750
Cost of XBRL software	29 (33%)	36 (40.9%)	21 (23.9%)	1 (1.1%)	1 (1.1%)	4.034	.850
Implementing new reporting procedures to create XBRL documents	20 (22.7%)	51 (58%)	16 (18.2%)	1 (1.1)	0 (0.00%)	4.023	.678
Lack of standardization in the way XBRL instance documents are produced and consumed	20 (22.7%)	42 (47.7%)	24 (27.3%)	1 (1.1%)	1 (1.1%)	3.898	.803
Lack of accounting qualifications/experience to assist in understanding different XBRL taxonomy elements	24 (27.3%)	45 (51.1%)	17 (19.3%)	1 (1.1%)	1 (1.1%)	4.023	.787
Instability of XBRL specification	19 (21.6%)	41 (46.6%)	24 (27.3%)	4 (4.5%)	0 (0.00%)	3.852	.809
Lack of available software for displaying XBRL documents and analysing them	22 (25%)	46 (52.3%)	19 (21.3%)	1 (1.1%)	0 (0.00%)	.401	.719
Lack of experts in the field reduces the chances of implementation and application of XBRL in companies.	29 (33%)	46 (52.3%)	11 (12.5%)	2 (2.3%)	0 (0.00%)	4.159	.725
Diversity and multiplicity of elements and components of XBRL, makes it difficult to enforce.	22 (25%)	48 (54.5%)	16 (18.2%)	2 (2.3%)	0 (0.00%)	4.022	.726
Selection of appropriate XBRL tool	15 (17%)	52 (59.1%)	20 (22.7%)	1 (1.1%)	0 (0.00%)	3.920	.664
Lack of adequate XBRL tool-specific training	28 (31.8%)	45 (51.1%)	14 (15.9%)	1 (1.1%)	0 (0.00%)	4.125	.755

Table 5 shows the perceived obstacles of XBRL as assessed by Chartered accountants (CAs) on a five point likert scale (5=Strongly Agree, 1= Strongly Disagree). The analysis of perceived obstacles to XBRL adoption indicates that Chartered Accountants acknowledge several significant implementation challenges. This is reflected in the mean scores, most of which exceed 4.00, demonstrating agreement regarding the presence of these barriers. The relatively moderate standard deviation values also suggest a reasonable level of consistency in respondents' views.

The highest-ranked obstacle is lack of awareness about XBRL and its advantages (Mean = 4.375, SD = 0.683), indicating that insufficient understanding and exposure remain major concerns. This suggests that many professionals believe broader awareness initiatives are necessary to facilitate adoption. Similarly, lack of XBRL training (Mean = 4.261) and lack of

experts in the field (Mean = 4.159) highlight deficiencies in technical knowledge and professional expertise, pointing to skill gaps that may hinder effective implementation.

The perceived complexity of XBRL (Mean = 4.193) and the time and effort required to learn it (Mean = 4.193) further reflect concerns regarding its technical sophistication. These findings suggest that respondents view the learning curve and system intricacies as potential deterrents, especially for firms with limited technological readiness.

Cost-related factors also received notable agreement, including the cost of XBRL software (Mean = 4.034) and the cost of implementing new reporting procedures (Mean = 4.023). This indicates that financial constraints and initial investment requirements are perceived as practical barriers to adoption. Although instability of XBRL specifications (Mean = 3.852) and difficulty in selecting appropriate XBRL tools (Mean = 3.920) recorded comparatively lower mean scores, they still reflect moderate agreement, suggesting some degree of operational uncertainty and hesitation.

Overall, the findings reveal that despite recognizing the benefits of XBRL, Chartered Accountants perceive adoption to be constrained primarily by limited awareness, inadequate training and expertise, technical complexity, and cost considerations. The responses collectively demonstrate a coherent perception that organizational readiness and capacity-building measures are essential for successful implementation.

5. ANALYSIS AND FINDINGS

The analysis of the data provides meaningful insights into the awareness, understanding, and perceptions of Chartered Accountants (CAs) regarding XBRL adoption. The findings indicate that although a majority of respondents demonstrate basic awareness of XBRL, there is a noticeable gap in terms of conceptual understanding. While over half of the aware respondents reported familiarity with the basic concepts, only a small proportion indicated a comprehensive understanding. This suggests that awareness alone is insufficient and does not necessarily translate into practical expertise.

The evaluation of perceived benefits reveals a strong consensus among respondents regarding the advantages of XBRL. High mean scores across all benefit-related variables indicate that CAs recognize its potential to enhance financial reporting. Key benefits identified include improved data accuracy, automatic validation, faster reporting cycles, and reduction in processing errors. These findings reflect a positive perception toward digital financial reporting and suggest that professionals are receptive to technological advancements.

Despite this, several significant obstacles to adoption were identified. The most prominent barriers include lack of awareness, insufficient training, and limited technical expertise. Additionally, the perceived complexity of XBRL and the time required to learn it act as deterrents. Cost-related concerns, including software and implementation expenses, further contribute to resistance.

CONCLUSION

The study provides valuable insights into the awareness, understanding, and perceptions of Chartered Accountants regarding XBRL. The findings indicate that while awareness levels are moderately high, there is a significant lack of deep conceptual understanding among professionals. This gap highlights the need for enhanced educational initiatives and practical exposure to XBRL systems.

The positive perception of XBRL benefits demonstrates that professionals recognize its importance in improving financial reporting quality. Features such as automation, accuracy,

and comparability are widely appreciated, suggesting a strong potential for adoption. However, the presence of significant obstacles, including lack of training, technical complexity, and cost considerations, limits its practical implementation.

The study concludes that successful adoption of XBRL requires a multi-dimensional approach involving regulatory support, professional training, and technological infrastructure development. Professional bodies such as ICAI should play a proactive role in conducting workshops and certification programs to enhance understanding and skills related to XBRL.

Furthermore, policymakers should focus on simplifying implementation procedures and providing incentives to encourage adoption. Bridging the gap between awareness and understanding is essential for achieving the full potential of digital financial reporting transformation.

REFERENCES

1. Ahmi, A., & Nasir, M. H. (2019). Adoption of XBRL in financial reporting. *Journal of Financial Reporting*, 14(2), 45–60.
2. Al-Htaybat, K., Alberti-Alhtaybat, L., & Hutaibat, K. (2021). Digital reporting transformation. *Accounting Research Journal*, 34(3), 210–225.
3. Alles, M., & Piechocki, M. (2019). XBRL adoption challenges. *Journal of Emerging Technologies in Accounting*, 16(1), 45–58.
4. Baldwin, A., Brown, C., & Trinkle, B. (2020). XBRL data usage. *Journal of Information Systems*, 34(3), 145–160.
5. Bonsón, E., Cortijo, V., & Escobar, T. (2018). XBRL adoption and transparency. *Online Information Review*, 42(5), 652–670.
6. Chen, H., Tang, Q., Jiang, Y., & Lin, Z. (2019). The role of XBRL in financial reporting quality. *Journal of Accounting and Public Policy*, 38(6), 106–120.
7. Cordery, C., & Simpkins, K. (2018). Financial reporting digitization. *Accounting Forum*, 42(2), 123–135.
8. Debreceeny, R., Farewell, S., Piechocki, M., Felden, C., & Graning, A. (2019). XBRL and financial reporting. *Journal of Information Systems*, 33(2), 89–110.
9. Doolin, B., & Troshani, I. (2021). Organizational adoption of XBRL. *Information & Management*, 58(4), 103–118.
10. Efendi, J., Park, J., & Subramaniam, C. (2020). Do XBRL filings improve reporting quality? *Accounting Horizons*, 34(2), 61–79.
11. Henderson, D., Sheetz, S., & Trinkle, B. (2019). XBRL implementation outcomes. *Journal of Information Systems*, 33(1), 77–95.
12. Janvrin, D., & No, W. (2020). XBRL implementation challenges. *Journal of Information Systems*, 34(1), 67–85.
13. Kılıç, M., & Kuzey, C. (2022). Barriers to XBRL adoption. *International Journal of Accounting Information Systems*, 45, 100–115.
14. Kim, J., Lim, J., & No, W. (2021). Effects of XBRL adoption. *Accounting Research Journal*, 34(2), 155–170.
15. Kumar, R., Singh, A., & Mehta, P. (2025). Awareness of XBRL in India. *Indian Accounting Review*, 29(1), 55–70.
16. Li, S., Ni, X., & Lin, Z. (2020). XBRL and financial transparency. *Journal of Business Finance*, 47(5), 789–812.
17. Liu, C., Luo, X., & Wang, F. (2018). XBRL adoption determinants. *Information Systems Journal*, 28(3), 456–480.

18. Nel, G., & Steenkamp, L. (2022). XBRL adoption in developing economies. *South African Journal of Accounting Research*, 36(1), 67–85.
19. Perdana, A., Robb, A., & Rohde, F. (2018). Factors influencing XBRL adoption. *Journal of Accounting Technology*, 12(4), 89–102.
20. Pinsker, R., & Li, S. (2018). Costs and benefits of XBRL adoption. *Accounting Perspectives*, 17(2), 245–276.
21. Richins, G., Stapleton, A., Stratopoulos, T., & Wong, C. (2018). Big data and XBRL. *Journal of Accounting Literature*, 40, 63–78.
22. Saha, A., Bose, S., & Khan, H. (2022). Perception toward XBRL adoption. *Asian Journal of Accounting Research*, 7(2), 134–148.
23. Sharma, P., & Gupta, R. (2023). Digital transformation in accounting. *International Journal of Finance and Accounting*, 18(2), 99–112.
24. Singh, V., & Verma, S. (2024). Professional readiness for XBRL. *Journal of Emerging Technologies in Accounting*, 21(1), 25–40.
25. Tawiah, V., & Gyapong, E. (2020). Regulatory influence on XBRL adoption. *Journal of Accounting in Emerging Economies*, 10(2), 193–210.
26. Troshani, I., Parker, L., & Lymer, A. (2018). Institutional theory and XBRL. *Accounting, Auditing & Accountability Journal*, 31(2), 463–492.
27. Yoon, H., Zo, H., & Ciganek, A. (2019). XBRL and reporting quality. *Accounting Horizons*, 33(2), 123–140.