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XBRL as an Accounting Information System Innovation: A Study of Application to Australian Financial Reporting

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ABSTRACT
Purpose: *This study examines the role of eXtensible Business Reporting Language (XBRL) within Accounting Information Systems (AIS) and evaluates its implementation in Australia's digital reporting ecosystem. It aims to identify the determinants of XBRL adoption, assess its contribution to reporting quality, and analyze how regulatory and technological infrastructures enable national-scale digital reporting.*
Method*: A descriptive qualitative approach was applied, drawing on an extensive literature review comprising five core academic sources, international regulatory documents, and Australia's Standard Business Reporting (SBR) framework. The analysis focuses on AIS–XBRL integration, policy development, and cross-institutional reporting practices involving ASIC, ATO, and APRA.*
Findings*: The study finds that XBRL enhances reporting accuracy, transparency, comparability, and processing efficiency through standardized taxonomies and automated validation mechanisms. Within AIS, XBRL supports a unified source of financial data, reducing discrepancies and improving decision-making. Australia's SBR initiative shows strong effectiveness due to robust regulatory coordination and technological readiness. However, challenges remain, particularly limited adoption among smaller entities, insufficient technical competencies, and high initial implementation costs.*
Implication*: The findings highlight the strategic importance of XBRL for digital reporting, regulatory oversight, and national data governance. They emphasize the need for capacity-building, policy reinforcement, and technical support to ensure inclusive adoption, especially for SMEs.*
Originality*: This study integrates AIS theory, digital reporting policy, and national-level XBRL implementation, offering new insights into cross-institutional reporting ecosystems and future directions for digital disclosure, including potential extensions into sustainability reporting.*

Keywords: *XBRL, Accounting Information Systems, Information Transparency, Standard Business Reporting, Australia, Digital Reporting.*

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1. INTRODUCTION

Over the past twenty years, Accounting Information Systems (AIS) have undergone a major transformation in the way organizations generate, process, and disseminate financial data. AIS now represents a digital infrastructure that supports data integration, reporting process automation, and technology-based information analysis. Financial reporting systems are shifting to formats that are increasingly structured, efficient, and can be automatically processed by various applications as a result of rapid advances in computing, networking, and data interoperability. The digitization of financial reporting has become a strategic necessity for businesses, regulators, and investors due to

globalization and the increasing demand for transparency. With digitization, the quality and reliability of data provided to stakeholders are improved (Bartolacci et al., 2020; Troshani & Rowbottom, 2021).

However, in many jurisdictions, conventional reporting methods are still used. Manually generated financial reports, whether in paper form, PDF format, or static files, suffer from various fundamental problems. Comparability, analysis, validation, and integration with other information systems are hampered because these formats do not provide machine-readable data structures. Furthermore, financial reports presented in narrative format often require re-keying, are prone to human error, are difficult to automate, and hinder rapid access to stakeholders. The limitations of traditional reporting are increasingly apparent and impact the quality of decision-making, especially as markets and regulators demand clearer, more detailed, and faster data (Hoitash et al., 2020; Borgi, 2022; Nofel et al., 2024).

XBRL continues to expand globally, enabling each component of financial statements to be labeled using a standard accounting taxonomy. This enables data to be machine-processed, transmitted more quickly, and compared consistently across entities and jurisdictions. Several international institutions, such as the Securities and Exchange Commission in the United States, Companies House in the United Kingdom, and several financial services authorities in Asia, have adopted this technology to build clearer and more accountable digital reporting systems. XBRL can not only improve operational efficiency but also provide high-quality data that aids economic analysis, regulatory oversight, and investor decision-making (Borgi, 2022; Judijanto et al., 2025).

Australia is an interesting country for a case study because it is a pioneer in XBRL adoption through the Standard Business Reporting (SBR) initiative. The Australian government has integrated various agencies, such as the Australian Securities and Investments Commission (ASIC), the Australian Taxation Office (ATO), and other public sector regulators, into a single, integrated XBRL-based digital reporting ecosystem. This approach can make Australia a relevant policy laboratory for assessing the successes, challenges, and behavioral dynamics of organizations adopting new reporting technologies. Australia's experience provides a broad overview of how regulation, organizational readiness, industry pressures, and technological support interact during the XBRL adoption process (Troshani & Rowbottom, 2021; Borgi, 2022).

This study aims to identify variables influencing XBRL adoption, identify barriers associated with XBRL implementation, and assess the impact of digital reporting technologies on improving financial reporting quality. By combining AIS perspectives, technology adoption models, and digital reporting policy dynamics, this study strengthens the academic literature on reporting technology adoption. Practically, this research discusses methods that regulators, reporting organizations, and policymakers can use to encourage the shift towards digital financial reporting. A critical review of XBRL usage is becoming increasingly important to ensure that this technology truly adds value to the reporting ecosystem as demands for transparency and efficiency in the global marketplace increase.

2. LITERATURE REVIEW

2.1. Accounting Information System

An Accounting Information System (AIS) is generally defined as an integrated system used to collect, record, store, process, and present financial and business information to various stakeholders, both internal and external. AIS encompasses not only accounting software but also procedures, databases, technological infrastructure, and the human resources that operate and manage that information. Several studies have positioned AIS as a critical subsystem within a management information system because the quality of the information it produces directly impacts the effectiveness of decision-making and organizational performance (Nofel et al., 2024; Troshani & Rowbottom, 2021).

The main components of an AIS typically include: (1) people (accountants, analysts, managers, auditors, regulators) who use and maintain the system; (2) procedures and instructions, namely the policies and workflows that govern how data is collected, verified, processed, and reported; (3) data, particularly relevant financial and non-financial transaction data; (4) software that automates the recording, classification, and reporting processes; (5) technological infrastructure such as networks, servers, and databases; and (6) internal control and information security mechanisms (Nofel et al., 2024). The literature on AIS emphasizes that the synergy between these components determines how reliable, relevant, timely, and comparable the information produced is (Borgi, 2022).

The role of AIS in decision-making and financial reporting is increasingly strategic in the digital era. First, AIS provides well-structured and documented information, facilitating management in

performance analysis, budget planning, and risk evaluation. Troshani & Rowbottom (2021) research on current accounting topics shows that AIS frequently emerges as a dominant research area, particularly regarding its impact on performance and the quality of information used in the decision-making process (Borgi, 2022; Abhishek et al., 2024).

Second, in the context of financial reporting, AIS serves as a technical and organizational foundation that ensures transaction-level data can be accumulated and transformed into standards-compliant financial reports (e.g., IFRS), while also being ready for further processing in digital formats such as XBRL. Third, AIS also serves as an infrastructure that enables integration with external government reporting systems (business-to-government reporting), as seen in research on XBRL-based interagency information sharing in Indonesia and its design inspiration from Australian practices (Troshani & Rowbottom, 2021; Nofel et al., 2024; Jananti et al., 2023).

2.2. eXtensible Business Reporting Language (XBRL)

eXtensible Business Reporting Language (XBRL) is an open standard based on eXtensible Markup Language (XML) designed to encode, store, and exchange business and financial information in a structured, machine-readable format. XBRL provides a uniform "language" for defining and tagging financial statement elements, enabling computers to automatically extract, process, and compare data across companies, periods, and jurisdictions. Several literature reviews have ranked XBRL as one of the most significant innovations in financial reporting since the mandatory electronic reporting by capital market authorities such as the SEC in the United States (Bartolacci et al., 2020; Abu-Raqabeh, 2025).

Technically, XBRL is built on an XML structure consisting of two main components: document instances and taxonomies. A document instance contains XBRL-tagged financial statement facts (e.g., asset values, revenues, liabilities, and the text of notes to the financial statements). A taxonomy is a "dictionary" or schema that defines reporting concepts, relationships between concepts, labels, references to accounting standards, and other attributes such as units, periods, and data types. Taxonomies can be standard taxonomies (e.g., IFRS Taxonomy) or national taxonomies developed by a country's regulators (Vysochan et al., 2023; Bartolacci et al., 2020).

XBRL's advantages include efficiency, speed, accuracy, and comparability of data. First, in terms of efficiency and speed, XBRL reduces the need for manual input and copy-pasting of data from PDF or paper reports into spreadsheets, thereby reducing processing costs and analysis time. Second, in terms of accuracy, consistent tagging standards and data structures help reduce human error in data transfer. Third, XBRL facilitates comparability because different entities use the same taxonomy for the same concepts; this is important for investors, analysts, and regulators who want to conduct cross-company and cross-country analysis. Empirical studies on financial firms show that XBRL adoption is associated with increased transparency, relevance, and reliability of information, as well as reduced information asymmetry (Tawiah & Borgi, 2022; Alkayed et al., 2023).

In AIS, XBRL serves as a reporting layer above the internal transaction system. AIS produces internally validated accounting data; XBRL then packages this data into a structured format ready for delivery to regulators, stock exchanges, and other external users. Recent literature emphasizes that integrating XBRL with AIS enables a single version of the truth in reporting to multiple agencies, reduces duplication and inconsistencies in reporting, and serves as a basis for inter-agency information sharing (Nofel et al., 2024).

Australia's experience provides a key example of XBRL integration within AIS at the national level. Through the Standard Business Reporting (SBR) program, Australia developed a national taxonomy and reporting infrastructure that allows companies to report once through an internal system connected to various government agencies, such as the Australian Tax Office (ATO) and the Australian Prudential Regulation Authority (APRA). This approach was adopted as a reference in research on inter-agency XBRL-based accounting information sharing in Indonesia and demonstrates how XBRL and AIS can be combined to reduce reporting burdens, increase transparency, and strengthen data quality across agencies (Troshani & Rowbottom, 2021; Jananti et al., 2023).

3. RESEARCH METHOD

3.1. Research Design

This study uses a descriptive qualitative approach aimed at in-depth understanding of the implementation of eXtensible Business Reporting Language (XBRL) in the context of corporate and

government financial reporting systems, particularly in the Australian implementation model. The qualitative approach was chosen because this study does not intend to statistically test hypotheses, but rather examines the concepts, practices, and dynamics of digital reporting policies through interpreting various scientific sources and regulatory documents. This approach allows researchers to comprehensively describe the actual conditions of XBRL implementation and relate them to developments in accounting information systems (AIS) and the need for modern reporting transparency (Troshani & Rowbottom, 2021; Mousa & Pinsker, 2020).

3.2. Data Collection and Literature

Data collection techniques were conducted through a literature review, including a search of scientific articles, international journals, research reports, and bibliometric studies related to XBRL, AIS, and digital financial reporting. The five primary journals analyzed served as core reference sources for understanding global XBRL developments, research trends, and implementation challenges across jurisdictions. Furthermore, this study utilized analysis of relevant Australian policy documents, including the Standard Business Reporting (SBR) guidelines, financial reporting policies issued by the Australian Securities and Investments Commission (ASIC), and the prudential reporting framework developed by the Australian Prudential Regulation Authority (APRA). These documents were analyzed to understand how Australia has integrated XBRL into its national reporting infrastructure and how these policies have impacted companies and government agencies (Judijanto et al., 2025; Borgi, 2022; Bartolacci et al., 2020).

This research focused on the implementation of XBRL in corporate financial reporting, tax reporting, and regulatory reporting between government agencies. The analysis focuses on the integration of XBRL into AIS, its impact on reporting efficiency, and the structural advantages of the Australian model, which is widely used as a reference by other countries. With this approach, the research is expected to provide a comprehensive picture of XBRL's role as an instrument for modernizing financial reporting and its implications for governance and information transparency at the national level (Troshani & Rowbottom; 2021).

The data used consisted of journal articles, proceedings, policy reports, and official documents relevant to the topics of Accounting Information Systems (AIS), Extensible Business Reporting Language (XBRL), and business sustainability in Australia. The primary search sources were Google Scholar and official agency websites such as Extensible Business Reporting Language (XBRL) International and Extensible Business Reporting Language (XBRL) Australia. The search was conducted using English keywords, including: "Australia Extensible Business Reporting Language (XBRL)", "eXtensible Business Reporting Language (XBRL) financial reporting in Australia", "eXtensible Business Reporting Language (XBRL) in the Australian capital market", "Accounting Information System (AIS) development in Australia", and "Accounting Information System (AIS) Australia sustainability". Table 1 sumarizes the results of the data collection procedures.

Table 1. Number of Literature Search Results

Database	Observation Date	Keywords	Total
Google Scholar, Publish or Perish	17 November 2025: Period 2020-2025	*XBRL, Accounting Information Systems, Financial Reporting, Information Transparency, Standard Business Reporting (SBR), Australia, Digital Reporting*	32
	27 November 2025: Period 2020-2025	Eliminate articles that do not match the topic/keywords	11
		Final Articles	21

Source: Processed data (2025)

Based on Table 1, the selected articles were then screened based on their titles and abstracts to ensure their relevance to the research objectives. (XBRL International, 2024; XBRL Australia, 2024) The inclusion criteria for literature were:

1. Studies discussing the adoption or impact of using eXtensible Business Reporting Language (XBRL), particularly in the Australian context.
2. Literature reviewing the development of Accounting Information Systems (AIS), AIS quality, or the use of digital technology in accounting practices in Australia.

3. Research examining the relationship between AIS or digital reporting and company performance, transparency, or business sustainability.
4. Publications published in the 2020–2025 period, with the exception of articles deemed fundamental.

Exclusion criteria included articles not directly related to the field of accounting, such as research that only discusses information technology in general, and studies that do not present an Australian context or do not address sustainability aspects.

3.3. Data Analysis

Data analysis was carried out using the following steps:

1. Identification: recording bibliographic information and summarizing the main findings of each article.
2. Classification: grouping articles into themes:
   a. The impact of Extensible Business Reporting Language (XBRL) on the Korean capital market.
   b. Accounting Information Systems (AIS) development and digital transformation in Australian companies.
   c. The relationship between Accounting Information Systems (AIS)/Extensible Business Reporting Language (XBRL) and business sustainability.
3. Narrative synthesis: compiling descriptive accounts that connect the findings between articles, then drawing theoretical and practical implications related to business sustainability.

4. RESULTS AND DISCUSSION

4.1. Results

The data analysis in this study was conducted through a series of systematic stages, resulting in 21 articles relevant to the topic (Table 1 and Table 2). These results were obtained from a series of procedures described in the data analysis section. This method produced a comprehensive literature synthesis and was able to explain the research's position in both academic and business practice contexts.

Table 2. Articles Selected for Theme Analysis

No	Author and Title	Results
1	Bartolacci, Caputo, Fradeani, & Soverchia (2020), Meditari Accountancy Research, “Twenty Years of XBRL: What We Know and Where We Are Going”	This study found that XBRL improves transparency, efficiency, and reporting quality. It identified research gaps such as the integration of AI, big data, and reporting automation.
2	Mousa & Ozili (2023), Journal of Risk and Financial Management, “A Futuristic View of Using XBRL Technology in Non-Financial Sustainability Reporting: The Case of the FDIC”	This research demonstrates the potential of XBRL for non-financial sustainability reporting. XBRL improves the comparability, structure, and credibility of ESG reports within institutions like the FDIC.
3	Borgi (2022), Journal of Accounting and Management Information Systems, “XBRL Technology Adoption and Consequences: A Synthesis of Theories and Suggestions of Future Research”	This study identifies the driving factors for XBRL adoption (regulation, IT readiness, organizational support) and their impacts, such as improved information quality and analysis efficiency.
4	Mousa & Pinsker (2020), Qualitative Research in Accounting & Management, “A Case Study of XBRL Implementation and Development at the FDIC”	Research shows that XBRL implementation at the FDIC improves data processing speed, the quality of bank supervision, and reporting accuracy and efficiency.
5	Troshani & Rowbottom (2021), Australian Accounting Review, “Digital Corporate Reporting: Research Developments and Implications”	This study describes the development of digital reporting research (including XBRL); highlights the challenges of global consistency and the need for integrated digital reporting standards.
6	Alkayed, Zighan, Qabajeh, & Almaharmeh (2023), Cogent Business & Management, “The Role of XBRL Adoption on Enhancing Transparency of Information Disclosure”	This study shows that XBRL improves transparency and disclosure quality in financial companies in Jordan and reduces information asymmetry.
7	Judijanto, Wifasari, Rianto, Eldianson, & Riny (2025), The Es Accounting and Finance, “Global Trends and Research Evolution of	This study provides an overview of the evolution of global XBRL research; research has increased since 2010, particularly regarding reporting quality, digital

	XBRL Adoption in Financial Reporting"	regulation, and technology utilization.
8	Hoitash, Hoitash, & Morris (2020), SSRN, "XBRL: A Review and Implications for Future Research"	This study finds that XBRL improves data quality, speeds up audits, and serves as the foundation for modern digital reporting; it proposes research on the use of XBRL across countries and industries.
9	Shevchuk & Havrashenko (2025), Smart Economy, Entrepreneurship and Security, "Integrated Reporting as a Transparency Tool"	This research shows that XBRL and integrated reporting increase transparency and support corporate sustainability practices through better data structures.
10	Abu-Raqabeh (2025), International Journal of Business Research and Management, "Extensible Business Reporting Language (XBRL)"	This research demonstrates a concept that confirms the benefits of XBRL for standardizing financial reports, increasing accessibility, and reducing reporting errors.
11	Vysochan, Hyk, Mykytyuk, & Vysochan (2023), Studia Universitatis "Vasile Goldis" Arad, "Taxonomy of Financial Reporting in the Context of Digitalization of the Economy"	This study shows that digitalization strengthens the structure of the XBRL taxonomy, increasing the comparability of domestic and international financial reports.
12	Sassi, Ben Othman, & Hussainey (2024), International Journal of Disclosure and Governance, "The Determinants of XBRL Adoption"	This study found that XBRL adoption is influenced by regulatory strength, capital market pressure, country technological advancement, and organizational complexity.
13	Tawiah & Borgi (2022), Accounting Research Journal, "Impact of XBRL Adoption on Financial Reporting Quality"	This study shows that XBRL adoption improves the quality of global financial reports by reducing earnings management and increasing the comparability and relevance of information.
14	Abhishek, Divyashree, Rahiman, Kulal, & Kulal (2024), The Bottom Line, "The Influence of XBRL Technology on the Quality of Financial Reporting"	This study shows that XBRL improves the accuracy, completeness, and reliability of financial reports; mediating variables such as reporting accuracy are proven to be significant.
15	Nofel, Marzouk, Elbardan, Saleh, & Mogahed (2024), Journal of Risk and Financial Management, "From Sensors to Standardized Financial Reports"	This research develops an automated system based on IoT and blockchain to generate real-time XBRL reports with high accuracy.
16	Lestari, Putri, & Devi (2021), Jurnal Dinamika Akuntansi dan Bisnis, "The Influence of XBRL Adoption on Financial Reporting Timeliness"	This study shows that XBRL accelerates the timeliness of financial reporting in the Indonesian banking industry.
17	Tohang & Lusiana (2022), The Indonesian Accounting Review, "Digitalization of Financial Reporting Through XBRL and the Cost of Equity"	This study shows that the use of XBRL lowers the cost of equity because it increases information transparency and reduces information risk for investors.
18	Kobbi-Fakhfakh & Athie (2023), Asia Pacific Journal of Information Systems, "Digitalization of Financial Reporting Through XBRL and Corporate Tax Avoidance"	This study shows that XBRL has an impact on tax avoidance practices and increases the effectiveness of tax authority supervision.
19	Jananti, Wirakusuma, & Sisdyani (2023), E-Jurnal Akuntansi, "Adopsi Extensible Business Reporting Language dan Asimetri Informasi"	This study shows that XBRL adoption reduces information asymmetry in the Indonesian capital market and increases transparency.
20	Nofel, Marzouk, Elbardan, Saleh, & Mogahed (2024), Journal of Risk and Financial Management, "Integrating Blockchain, IoT, and XBRL in Accounting Information Systems"	This research shows that a systematic review shows that the integration of these technologies can strengthen the security, efficiency, and automation of digital financial reporting.
21	Hussein & Allam (2021), *Journal of Financial Reporting and Accounting*, "Factors Influencing the Adoption of XBRL in Developing Countries: Evidence from Egypt"	This study shows that XBRL adoption in developing countries is influenced by government support, organizational technological readiness, institutional pressure, and perceived benefits, while implementation costs and lack of technical expertise are the main barriers.

Source: Processed data (2025)

4.2. Discussion

XBRL and Global Research Trends

Research on XBRL has grown significantly over the past two decades, in line with the growing global demand for more transparent, accurate, and efficient reporting. International bibliometric studies show that XBRL research has diversified in topic, shifting from early research dominated by technical aspects

such as XML structure and errors in the tagging process, to broader conceptual and regulatory issues, including the impact of XBRL on reporting quality, reduction of information asymmetry, capital market efficiency, and global harmonization of financial reporting. Research in the journal you uploaded shows that the use of XBRL has been proven to increase the transparency, relevance, and reliability of financial information. This is empirically demonstrated in a study of Jordanian financial companies, which showed that XBRL adoption resulted in increased data transparency and quality for external stakeholders (Judijanto et al., 2025; Bartolacci et al., 2020; Alkayed et al., 2023; Hussein & Allam, 2021).

The literature also shows that the United States, the European Union, China, Japan, and Australia dominate XBRL research globally. Some developing countries are beginning to show increasing interest, but adoption remains hampered by technological readiness and a lack of standards alignment. The bibliometric journal review you published confirms that the latest research trends no longer focus solely on the technical implementation of XBRL, but also on evaluating its economic impact, the effectiveness of regulatory policies, and the integration of XBRL with international reporting standards such as IFRS, which has been widely adopted by G20 countries. Furthermore, modern literature indicates the integration of XBRL with emerging technologies such as artificial intelligence, blockchain, and predictive analytics, which are expected to transform the financial reporting ecosystem toward a real-time reporting system. Thus, global research trends confirm that XBRL serves not only as a digital reporting standard but also as a foundation for structural transformation in international financial reporting (Judijanto et al., 2025; Borgi, 2022; Sassi et al., 2024; Nofel et al., 2024).

Australia's Implementation of XBRL in the National Reporting System

Australia is one of the most successful countries in implementing XBRL as part of its national reporting system through the Standard Business Reporting (SBR) initiative. This program was developed in response to the needs of the government and business sector to reduce administrative burdens, improve reporting efficiency, and strengthen data interoperability between agencies. Unlike many other countries that have adopted XBRL partially, Australia has adopted a more comprehensive approach by establishing a national taxonomy aligned with IFRS and integrating business reporting systems with corporate AIS through XBRL-based automation. The academic literature you uploaded shows that G20 countries, including Australia, are adopting XBRL to improve the transparency and quality of digital reporting in both the public and private sectors, as well as to accelerate data analysis by regulators and auditors (Troshani & Rowbottom, 2021; Judijanto et al., 2025; Bartolacci et al., 2020; Hussein & Allam, 2021).

In its implementation, Australia involved three main institutions: the Australian Securities and Investments Commission (ASIC), the Australian Taxation Office (ATO), and the Australian Prudential Regulation Authority (APRA). All three utilized XBRL to expedite the processing of financial statements, tax returns, and prudential supervision reports. SBR allows companies to report data once through their internal systems, and the data is automatically mapped using the XBRL taxonomy so it can be submitted to various government agencies without the need for repeated reporting. Global studies place Australia as a global pioneer, along with the Netherlands and New Zealand, due to SBR's success in reducing compliance costs, accelerating verification processes, and improving the integrity of data used by governments in decision-making. Australia's experience also serves as a reference in cross-country research demonstrating that effective integration of AIS and XBRL can create an efficient, real-time, and nationally standardized business reporting environment, making it a relevant model for countries seeking to develop similar digital reporting reforms (Troshani & Rowbottom, 2021; Judijanto et al., 2025; Nofel et al., 2024; Hussein & Allam, 2021).

Dynamics of XBRL Global Development

The past two decades have witnessed significant transformations in the evolution of eXtensible Business Reporting Language (XBRL) as a global standard for digital financial reporting. Based on a 20-year research mapping study by Bartolacci et al. (2020), XBRL development is characterized by three main phases: the introduction phase (2001–2008), the rapid growth phase (2009–2011), and the maturity phase (2012–present). In the initial phase, XBRL adoption was limited and influenced by regulatory experiments in the United States, the Netherlands, and Japan. The growth phase began to emerge when the US Securities and Exchange Commission (SEC) began gradually requiring XBRL reporting in 2009. This period was marked by a sharp increase in research and regulatory implementation. Meanwhile, the maturity phase saw a stable number of publications and a broadening of research focus into auditing, analytics, and non-financial reporting (Bartolacci et al., 2020; Judijanto et al., 2025).

From an academic perspective, the trend of XBRL publications has consistently increased, with the most significant growth after 2010, in line with the mandatory adoption of XBRL in various jurisdictions. A study by Bartolacci et al. (2020) showed that numerous XBRL publications appeared in highly reputable journals such as the Journal of Information Systems and The Accounting Review, indicating that XBRL has become an integral part of the international accounting research agenda. Research focuses have also expanded from evaluating the technology and its initial benefits to organizational adoption, integrating XBRL into corporate governance, and even its effectiveness in supporting audit functions and capital market analysis. Recent research has even expanded the scope of XBRL to include sustainability reporting and non-financial disclosures, as demonstrated by studies on the potential of XBRL in sustainability reporting by banking regulators such as the FDIC (Judijanto et al., 2025; Mousa & Ozili, 2023).

The role of XBRL in regulation has also grown significantly. Developed countries such as the United States, Australia, Japan, and most of the European Union have integrated XBRL as a mandatory reporting platform for public entities. Australia's Standard Business Reporting (SBR) initiative is one of the most comprehensive models of cross-agency integration, making it a frequently used global case study in evaluating the effectiveness of XBRL adoption policies (Troshani & Rowbottom, 2021; Bartolacci et al., 2020; Sassi et al., 2024).

Bartolacci et al. (2020)'s global research mapping yielded five main clusters that comprehensively illustrate the XBRL research landscape. First, the XBRL adoption cluster, widely studied through the TOE, TAM, DOI frameworks, and institutional theory, as in studies in Australia and Malaysia. Second, the financial reporting cluster, which examines how XBRL improves the accessibility, transparency, and quality of financial information. Third, the decision-making, market efficiency, and governance cluster, which evaluates the impact of XBRL on the quality of investor analysis and capital market efficiency. Fourth, the audit and assurance cluster, which examines the implications of using structured data for auditors in verification and analytical processes. Fifth, the non-financial reporting cluster, a rapidly evolving field, includes the use of XBRL for sustainability reporting, climate risk, and public governance (Bartolacci et al., 2020; Judijanto et al., 2025; Hussein & Allam, 2021).

The synthesis of the five journals demonstrates that the global dynamics of XBRL are not merely technological developments but also a paradigm shift in financial reporting. XBRL has evolved from a markup language into a reporting infrastructure connecting regulators, companies, auditors, investors, and the wider public. With the emergence of Inline XBRL and the development of a taxonomy for ESG reporting, global trends are clear. XBRL is moving toward becoming the primary foundation for digital reporting across sectors and countries (Bartolacci et al., 2020; Mousa & Ozili, 2023).

XBRL and Financial Reporting in Australia

The development of global financial reporting standards indicates that digitalization is a key direction in modern reporting systems. One manifestation of this digitalization is the implementation of eXtensible Business Reporting Language (XBRL), an international standard for presenting financial reports in a structured and automatically processed format. Globally, XBRL has been adopted by more than 50 countries, including the United States, Japan, the European Union, China, and Australia. Australia itself is one of the jurisdictions that has been quite progressive in implementing XBRL as part of its digital reporting reforms (Bartolacci et al., 2020; Judijanto et al., 2025).

In Australia, major regulators, such as the Australian Securities and Investments Commission (ASIC), have encouraged companies to submit financial reports in XBRL format. This policy aligns with international trends emphasizing transparency, comparability, and efficiency in the reporting process. By adopting XBRL, Australia strives to ensure that financial reports not only comply with IFRS standards but are also digitally accessible with greater data quality assurance. This is evident in digital reporting initiatives that follow global trends, where regulators such as the SEC in the US and ESMA in Europe have also mandated the use of XBRL for public company financial reporting (Troshani & Rowbottom, 2021; Sassi et al., 2024).

The implementation of XBRL in Australia has several important implications. XBRL improves the consistency and accuracy of financial data. The structured data format allows stakeholders, from investors to regulators to financial analysts, to process information automatically without the need for error-prone manual input. This finding aligns with international research showing that XBRL can improve the quality of financial reporting by increasing the relevance, timeliness, and comparability of information (Tawiah & Borgi, 2022; Alkayed et al., 2023; Abhishek et al., 2024).

Furthermore, the use of XBRL strengthens capital market transparency. With machine-readable financial reports, information users can conduct more in-depth and faster analysis, thus

making the decision-making process more efficient. The adoption of XBRL in Australia creates alignment with global standards. In an increasingly integrated economy, consistency in financial reporting formats is crucial for easily comparing company data from different countries. Australia is joining this wave of harmonization by implementing an IFRS-based XBRL taxonomy, as have many other countries such as Japan, Germany, and the Netherlands (Bartolacci et al., 2020; Vysochan et al., 2023).

However, XBRL implementation also presents challenges. Several foreign studies describe obstacles such as the need for human resource training, errors in the tagging process, and technological adaptations that are not always easy for all companies to implement. Similar challenges could potentially arise in Australia, especially for smaller companies with more limited technological capacity. However, with regulatory support and the development of AIS (Accounting Information Systems), these issues can be minimized (Borgi, 2022; Hoitash et al., 2020).

The implementation of XBRL in financial reporting in Australia demonstrates the country's commitment to keeping pace with global digital reporting developments. This implementation not only improves the quality and transparency of financial reports but also strengthens Australia's position in the increasingly technology-driven international reporting ecosystem. Thus, XBRL is an integral part of the transformation of modern financial reporting, leading to greater efficiency, accuracy, and transparency of information (Troshani & Rowbottom, 2021).

Benefits of XBRL in Modern Financial Reporting

The implementation of eXtensible Business Reporting Language (XBRL) in financial reporting systems offers substantial benefits for companies, regulators, and report users. In an era of increasingly digitalized reporting, the need for faster, more accurate, and more automatically processed information makes XBRL a relevant and strategic standard. This format provides a uniform, machine-readable data structure, making information exchange and analysis much more efficient than traditional reporting methods (Bartolacci et al., 2020; Abu-Raqabeh, 2025).

One of the most significant benefits of XBRL is improving the quality of financial reports. By reducing reliance on manual input, XBRL minimizes the potential for errors while strengthening data integrity. The study also emphasized that the existence of an XBRL-based e-disclosure platform can amplify these positive effects, particularly in ensuring greater data transparency for all stakeholders (Tawiah & Borgi, 2022; Alkayed et al., 2023; Abhishek et al., 2024).

In addition to improving reporting quality, XBRL significantly contributes to the efficiency of financial information processing. The tagging mechanism in XBRL allows computers to automatically identify and group data, eliminating time-consuming manual steps. This capability not only speeds up data processing but also reduces the risk of errors during information input. Report review, audits, and other oversight functions can be performed more quickly and effectively through the use of XBRL-based automation (Hoitash et al., 2020; Borgi, 2022).

In terms of transparency and information accessibility, XBRL also has a significant impact. With a standardized reporting format, users can obtain and process financial information more quickly without encountering formatting barriers. Digitizing reporting, including the use of XBRL, encourages the delivery of more understandable and accurate information, thereby increasing public trust in companies and the capital markets as a whole. This transparency is a key element in supporting more informed decision-making in a competitive market environment (Alkayed et al., 2023; Tawiah & Borgi, 2022).

Another crucial benefit is international comparability. With the IFRS-based XBRL taxonomy, financial reports from different countries can be compared more consistently. XBRL is a key instrument in global reporting harmonization, with many countries, including Australia, following the same standards. ASIC's adoption of XBRL places Australia within a harmonized global reporting framework, making it easier for investors across borders to analyze the performance of Australian companies (Vysochan et al., 2023; Bartolacci et al., 2020).

Furthermore, the implementation of XBRL has also driven the development of more advanced Accounting Information Systems (AIS). Because the resulting data is structured and standardized, integration with internal company systems becomes easier. This helps companies accelerate report preparation, improve the effectiveness of internal controls, and provide higher-quality managerial information to support strategic decision-making (Nofel et al., 2024).

Overall, the benefits of XBRL extend beyond technical efficiency. XBRL has evolved into a critical element in strengthening accountability, expanding information disclosure, and supporting globally integrated reporting practices. Its adoption in Australia demonstrates the country's commitment to adapting to the changing landscape of modern financial reporting. With increasing demands for data

quality and transparency, XBRL serves as a key foundation for a more responsive, efficient, and competitive financial reporting ecosystem (Troshani & Rowbottom, 2021; Bartolacci et al., 2020).

Factors Influencing XBRL Adoption

Adoption of eXtensible Business Reporting Language (XBRL) has become one of the most significant digital transformation agendas in the global financial reporting system. Numerous studies over the past two decades have shown that the success of its implementation is largely determined by a combination of technological, organizational, regulatory, and psychological and technical readiness factors of stakeholders. A literature synthesis of five key articles confirms that the decision to adopt XBRL is not solely a response to technological innovation but also a complex institutional adaptation process within and outside the organization (Borgi, 2022; Sassi et al., 2024).

From a technological perspective, three dominant characteristics influence XBRL acceptance: relative advantage, compatibility, and complexity. Relative advantage arises when organizations perceive XBRL benefits, such as increased efficiency, automated data validation, and analytical capabilities, as superior to traditional reporting. Research in Australia indicates that the perception of these long-term benefits plays a significant role in shaping organizational intentions to adopt XBRL. Conversely, the low level of compatibility between XBRL and existing AIS systems hinders adoption, especially in organizations with limited IT infrastructure or business processes that have not yet been adequately digitized. Meanwhile, complexity is often considered the biggest challenge. The complexity of the taxonomy, the need for a high level of technical understanding, and the detailed tagging process make many organizations, especially SMEs, view XBRL implementation as a costly and technically challenging initiative (Borgi, 2022; Sassi et al., 2024; Hussein & Allam, 2021).

Organizational factors also significantly influence adoption decisions. An organizational culture open to innovation tends to accelerate the adoption of digital reporting technology. Research in Malaysia shows that companies with conservative work cultures are slower to adopt XBRL-based MBRS systems, even when regulations encourage change. Top management support is a key element in determining whether budget allocation, IT resources, and employee training can be accelerated. Human resource readiness plays a crucial role in this process. When reporting staff lack digital skills or understand the structure of the XBRL taxonomy, internal resistance arises and hinders implementation. Furthermore, cost, both initial investment and operational costs, remains one of the biggest barriers, especially for public sector organizations or entities with limited financial capacity (Tawiah & Borgi, 2022; Borgi, 2022; Jananti et al., 2023).

From an environmental perspective, regulatory pressure has proven to be the most powerful factor in determining adoption rates. XBRL-based reporting mandates, such as those implemented by the SEC in the United States, ASIC in Australia, or SSM in Malaysia, significantly increase implementation rates. However, research shows that when adoption is voluntary, as in the early phase of Australia's SBR, implementation rates tend to be low. In addition to regulatory pressure, industry dynamics also play a significant role. When companies in the same industry begin adopting XBRL, competitive pressures push other organizations to follow suit to maintain legitimacy and operational efficiency. Interagency communication and the availability of software vendors also shape the readiness environment. Studies in Malaysia highlight that a lack of outreach and technical support from regulators led to a perception of unpreparedness among many reporting companies. Conversely, countries like Australia and institutions like the FDIC have successfully demonstrated that effective communication orchestration between regulators, vendors, and reporters can reduce implementation barriers (Sassi et al., 2024; Mousa & Pinsker, 2020).

Potential for Expanding XBRL Use in Non-Financial Reporting

The development of XBRL over the past two decades demonstrates that this digital reporting language is increasingly transcending its traditional function as a business reporting format for financial statements. Global pressure for environmental, social, and governance (ESG) transparency and the growing need for climate risk disclosure have prompted many countries to evaluate the use of XBRL in the context of non-financial reporting. This evolution is also relevant for Australia, which is one of the pioneering countries in implementing XBRL through the Standard Business Reporting (SBR) initiative. While SBR initially focused on financial reporting and cross-agency administrative compliance, the established regulatory framework and technological infrastructure make Australia one of the most prepared candidates to expand XBRL use to sustainability reporting (Mousa & Ozili, 2023; Troshani & Rowbottom, 2021).

Studies on the global development of XBRL indicate that non-financial reporting, particularly related to ESG and climate-related disclosures, has emerged as a significant new research cluster. Global reporting frameworks such as the TCFD and IFRS Sustainability Standards explicitly emphasize the need for machine-processable data structures to facilitate cross-jurisdictional climate risk analysis. In this context, XBRL offers advantages in providing a tagging mechanism that makes sustainability indicators more standardized, comparable, and easier to integrate into national and international analytical systems. The experience of countries that have adopted Inline XBRL, such as the European Union through the European Single Electronic Format (ESEF), also demonstrates that the integration of financial reporting with non-financial information can be done efficiently without compromising the readability of documents for human users (Mousa & Ozili, 2023; Bartolacci et al., 2020).

Inline XBRL plays a crucial role in this expansion. In many international practices, sustainability reporting often consists of lengthy narratives, descriptive tables, and qualitative indicators that are difficult to extract when presented solely in static PDF or HTML formats. Inline XBRL allows the narrative to remain presented in an easy-to-read format, yet all critical data can be mapped into an XBRL structure so that regulatory systems, market analysts, and audit institutions can process it automatically. Given that Australia has adopted Inline XBRL within its broader SBR reporting system, the country already has a solid technical foundation for expanding XBRL-based reporting into the non-financial realm (Mousa & Ozili, 2023; Troshani & Rowbottom, 2021).

The potential for expanding XBRL use in the non-financial sector is further strengthened by the experience of international regulators, such as the FDIC in the United States. The FDIC case study demonstrates that XBRL can be used not only for bank financial reporting but also to collect data related to climate risk, environmental resilience, and exposure to climate-sensitive economic activities. The FDIC's intensive stakeholder approach, which includes reporting banks, technology vendors, analysts, and other regulators, creates a model relevant to Australia. Australia's SBR has a similar multi-agency regulatory structure, involving ASIC, the ATO, ABS, and other agencies. Therefore, the FDIC model can be applied to expand the coverage of non-financial data within the SBR without having to build a new system from scratch (Mousa & Ozili, 2023; Mousa & Pinsker, 2020).

Within the national policy context, Australia has a strong incentive to incorporate sustainability reporting into the SBR framework, particularly as the Australian financial sector is at the forefront of global discussions on climate risk. Large Australian banks have been mandated to begin phasing in climate risk disclosures in accordance with TCFD guidelines. The integration of XBRL into non-financial risk reporting will enable regulators, such as APRA and ASIC, to obtain more structured data, enabling more precise systemic risk analysis, and supporting compliance with increasingly binding international standards. Australia's mature SBR infrastructure means it can move more quickly than many other countries in harmonizing financial and non-financial reporting (Mousa & Ozili, 2023; Troshani & Rowbottom, 2021).

Impact of XBRL Implementation in Australia

XBRL implementation in Australia has the potential to significantly impact the quality and efficiency of national financial reporting. A literature review of XBRL implementation in various jurisdictions and the development of digital reporting standards within the IFRS framework demonstrates that this technology offers highly relevant benefits to Australia's reporting system, particularly as the country has fully adopted IFRS. The availability of a uniform taxonomy, automated validation mechanisms, and structured data formats allows for increased consistency, transparency, and accuracy of financial information, while accelerating the reporting process for regulators and other stakeholders. With a regulatory framework aligned with IFRS and market demands increasingly demanding high-quality data, Australia is strategically positioned to optimally benefit from implementing XBRL in its reporting system (Vysochan et al., 2023; Bartolacci et al., 2020; Troshani & Rowbottom, 2021; Hussein & Allam, 2021).

One of the most prominent impacts is the efficiency of the reporting process. A case study at the FDIC (USA) demonstrated that the use of XBRL accelerated report processing from days to less than an hour thanks to automated validation and structured data delivery. Similar experiences have been seen in the UK and Qatar, where XBRL and iXBRL reduced manual work and accelerated reporting cycles. If implemented in Australia, this efficiency would make it easier for companies to meet reporting obligations to ASIC, ATO, and AASB without the need for document conversion or re-entering data across multiple regulatory portals (Mousa & Pinsker, 2020; Mousa & Ozili, 2023).

In addition to process efficiency, XBRL also contributes to reduced compliance costs. Findings from a UK iXBRL journal note that a single digital format reduces corporate administration and documentation costs, while FDIC and QSE journals indicate a reduced need for repeated

communication between reporters and regulators because automated validation prevents errors from occurring. With a unified regulatory structure, Australian companies will experience similar savings, eliminating the need to prepare different reporting formats for various government agencies. Investors will also have access to more consistent data, lowering the cost of capital for Australian companies, as demonstrated in capital market research (Mousa & Ozili, 2023; Tawiah & Borgi, 2022; Bartolacci et al., 2020).

The next impact is increased data accuracy. The implementation of XBRL strengthens information quality control mechanisms through the use of tags, taxonomies, and automatic validation formulas that minimize mathematical and logical errors in the reporting process. With the IFRS Taxonomy aligned with Australian financial reporting standards, XBRL implementation has the potential to produce reports that are more valid, consistent, and reliable for the government, auditors, and investors. This increased accuracy is a crucial foundation for transparency in financial reporting, particularly in the context of the Australian capital market, which relies heavily on the quality and reliability of information disclosed by companies (Vysochan et al., 2023; Tawiah & Borgi, 2022; Alkayed et al., 2023).

With faster, more accurate, and more structured data, XBRL also accelerates government and business decision-making. Studies from Qatar and the FDIC demonstrate how regulators can directly access digital data to make policy decisions, while faster and cleaner information helps investors react efficiently, thereby improving capital market quality. In Australia, this situation is particularly relevant, given that the ASX and regulators require real-time data to monitor company stability, detect risks early, and assess IFRS compliance. Companies can also make faster business decisions thanks to structured and easily analyzed internal data (Mousa & Ozili, 2023; Mousa & Pinsker, 2020).

Obstacles and Challenges to XBRL Implementation in Australia

While XBRL offers numerous benefits, its implementation is not without challenges, particularly when implemented on a national scale, such as in Australia. Based on the literature reviewed, three main barriers can be identified that could potentially arise during the implementation process: uneven adoption rates among small companies, the need for training and adjustments to internal processes, and high initial implementation costs. The first challenge is uneven adoption among small companies. Small entities generally face limited resources, both financially and technologically, and in terms of human resources, making XBRL implementation more difficult than larger companies. Furthermore, limited technical understanding and the perception that the implementation costs are not commensurate with the short-term benefits are also inhibiting factors. This situation also has the potential to occur in Australia, particularly among MSMEs and private companies that lack adequate information technology infrastructure or dedicated reporting units. Without support such as government incentives, simplified procedures, or the provision of easily accessible automated tools, XBRL implementation risks uneven development and adoption only by larger companies that already have adequate systems and resources in place (Jananti et al., 2023; Lestari et al., 2021; Hussein & Allam, 2021).

The second challenge is the need for training and adjustments to internal processes. XBRL implementation fundamentally demands human resource readiness, as this technology requires an understanding of taxonomy, tagging processes, and digital reporting mechanisms that differ from conventional methods. In the Australian context, this implies the need to update internal procedures, adjust existing AIS or ERP systems, and improve the competency of staff involved in the financial reporting process. These challenges are not only technical but also involve changes in work culture, as organizations must adapt to a fully digital and structured reporting system. Without adequate training and planned adjustments to internal processes, XBRL implementation risks suboptimal performance (Abhishek et al., 2024; Shevchuk & Havrashenko, 2025; Abu-Raqabeh, 2025).

The third challenge is the high initial cost of implementation. XBRL implementation generally requires significant initial investment from both regulators and companies. These costs primarily relate to building or updating information technology infrastructure, procuring software for tagging processes, and adapting internal procedures and systems to align with structured digital reporting formats. In the Australian context, reporting systems at relevant institutions need to be updated to effectively accept and process XBRL-based data. At the company level, initial investments include staff training, integrating XBRL with existing AIS or ERP systems, and adapting reporting processes to align with digital standards. While these initial investments can ultimately result in long-term efficiencies and cost savings, the high initial implementation costs have the potential to become a barrier that reduces the speed and equity of XBRL adoption (Tohang & Lusiana, 2022; Kobbi-Fakhfakh & Athie, 2023).

Thus, while XBRL has significant benefits for financial reporting in Australia, its implementation must consider barriers such as differences in readiness between companies, training requirements, and significant initial costs. Without a well-thought-out implementation strategy, XBRL adoption can be slow and uneven, especially among entities lacking high technological readiness (Abhishek et al., 2024; Lestari et al., 2021).

5. CONCLUSION

This study concludes that the implementation of eXtensible Business Reporting Language (XBRL) is a key catalyst in the digital transformation of modern financial reporting, particularly when integrated with Accounting Information Systems (AIS). A literature review and policy analysis demonstrate that XBRL substantially improves reporting quality through standardized data structures, taxonomy-based tagging mechanisms, and automated processing capabilities that minimize errors and enhance information consistency. The increased transparency, comparability, and accuracy of data generated by XBRL align with various international empirical findings and confirm its position as a relevant reporting technology in the contemporary accounting ecosystem.

Within the AIS realm, XBRL expands the traditional function of accounting information systems from merely facilitators of transaction processing to an integrated digital reporting infrastructure across institutions. This integration results in a single source of truth, which in turn strengthens the quality of managerial decision-making and supports data-driven analysis. An implementation study in Australia demonstrates that the success of national XBRL adoption is largely determined by strong regulatory support, technological infrastructure readiness, and inter-institutional coordination within the Standard Business Reporting (SBR) framework. The integrated reporting model developed through SBR has been proven to reduce compliance burdens, simplify data transmission processes, and improve information reliability across government institutions. These findings demonstrate that XBRL has strategic significance not only for reporting organizations but also for the effectiveness of public sector governance.

3.1. Limitations

This study identified several limitations that could potentially impact the effectiveness of XBRL implementation, particularly related to technical and organizational readiness. Small-scale companies face challenges such as limited resources, a lack of technical competence, and the need for relatively large initial investments. These barriers create potential disparities in adoption rates, which could undermine the benefits of XBRL at the national level if not balanced with adequate policy support and training.

3.2. Recommendation

Based on the limitations, further research is recommended to expand the analysis to empirical studies on the actual impact of XBRL implementation on reporting quality and operational efficiency in Australia, compare Australia's approach with other jurisdictions, and explore the potential for extending XBRL to sustainability reporting and non-financial disclosures. Overall, this study confirms that XBRL serves as a critical foundation for the modernization of global financial reporting and has strategic relevance in supporting transparency, accountability, and data integration in the digital age.

This research's contribution to academic development lies in integrating AIS perspectives, technology adoption, and digital reporting policy to understand the dynamics of XBRL implementation in a pioneering country like Australia. Practically, the findings offer important implications for regulators and policymakers in designing strategies to accelerate the transformation of digital financial reporting.

Generative AI statement

The authors declared that Generative AI was used in the creation of this manuscript. The authors affirm that, while generative AI (Copilot) was used to support the drafting process, all intellectual contributions, data interpretation, and final revisions were undertaken by the authors. Responsibility for the accuracy, originality, and integrity of the content rests solely with the authors.

Abbreviations

AIS / SIA	: Accounting Information System / Sistem Informasi Akuntansi
XBRL	: eXtensible Business Reporting Language
SBR	: Standard Business Reporting
ERP	: Enterprise Resource Planning
AASB	: Australian Accounting Standard Board
ASIC	: Australian Securities and Investment Commission
ATO	: Australian Taxation Office
ESG	: Environmental, Social, and Governance
TRI	: Technology Readiness Index
APRA	: Australian Prudential Regulation Authority
ESEF	: European Single Electronic Format

Authors' Contribution

Sri Fattah Dewandaru Mahasin: developed the research framework, conducted the primary literature search, and wrote the research methods section.

Ardhan Setiyawan: conducted an in-depth review of XBRL-related articles, wrote the introduction and literature review that formed the basis for the article's development, and compiled the methods table and its contents.

Renjiro Nathanael: focused on discussing AIS development and business sustainability, strengthening the results and discussion, drafting the abstract, and assisting with the bibliography.

Muhammad Hisham Nafis: assisted in developing the research framework, formulating the conclusions and abstract, and compiling the bibliography.

Helen Smith: responsible for access to the articles journal and English language.

All authors collaborated on final editing and ensured the article adhered to the IJoSPaT journal's writing guidelines.

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Availability of data and materials

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