

# The Role of Information Technology in Enhancing Transparency and Relevance of Financial Reporting Values: Systematic Literature Review (2020–2025)

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## Abstract

*The development of information technology has brought about significant transformations in global financial reporting practices. The digitalization within the domain of financial reporting, notably marked by the utilization of the extensible Business Reporting Language (XBRL) standard, Digital Financial Reporting (DFR), and big data-based disclosure systems, has become a major focus of research in the last decade. This study aims to identify trends, gaps, and future research directions regarding the role of information technology in improving the transparency and value relevance of financial reports through a Systematic Literature Review (SLR) approach to 10 international scientific articles indexed by Scopus published in the period 2020–2025. The research method used the PRISMA approach, which includes identification, screening, feasibility, and inclusion. The analysis was conducted by grouping the research results based on key themes such as corporate governance, XBRL adoption, financial information transparency, and the impact of technological advancements on the value relevance of financial information. The study's findings indicate that the use of information technology serves as a key driver in enhancing the quality, accessibility, and reliability of financial reporting. However, the effectiveness of its implementation varies across countries, depending on the readiness of infrastructure, regulations, and corporate governance. Furthermore, research gaps were identified regarding the integration of XBRL, climate change disclosure, and the concept of double materiality in sustainability reporting. This research provides an academic contribution in mapping the development of the concept of digital financial reporting and the direction of future research, particularly regarding the integration of big data-based information systems and artificial intelligence (AI) in corporate reporting.*

**Keywords:** Information Technology, Digital Financial Reporting, Transparency, Value Relevance, XBRL, Systematic Literature Review.

## 1. INTRODUCTIONS

Developments in information technology have fundamentally changed the paradigm of financial reporting over the past two decades. The incorporation of digital technologies within accounting and financial reporting practices not only simplifies the presentation of financial information but also increases the transparency, relevance, and reliability of the information conveyed to stakeholders. According to Yunika Murdayanti and Ulupui (2020), the implementation of the extensible Business Reporting Language (XBRL) framework in Indonesia has the potential to strengthen the value relevance of financial reports, although its implementation still faces challenges in terms of technological readiness and human resources.

Information technology, particularly in the form of digital financial reporting, is a strategic step in the rapid technological development of companies (corporate governance) that is more transparent and accountable. Bulyga et al. (2020) highlighted that information transparency in financial institutions in Russia still lags behind other European countries due to the lack of

application of information technology in the disclosure process. This indicates a global gap in the implementation of digital financial reporting, where its effectiveness is highly dependent on the readiness of infrastructure, regulations, and technological literacy in each country.

Furthermore, the emergence involving big data technologies, predictive analytical tools, and artificial intelligence applications (AI) is further expanding the scope of digital financial reporting. Nissim (2022) emphasized that utilizing big data in accounting opens new opportunities for assessing company value in real time, but also poses challenges related to accuracy, data privacy, and system integration. Meanwhile, research by Al-Okaily et al. (2024) found that XBRL adoption significantly improves the transparency of financial information and narrows the information gap between management and shareholders.

In the context of sustainability reporting, Azuma and Higashida (2024) and Kobiela-Pionnier and Karwowski (2024) introduced the concept of the double materiality principle, which involves reporting that simultaneously considers economic and environmental impacts. This demonstrates a shift in financial reporting from mere regulatory compliance to reporting based on social responsibility and sustainability.

On the other hand, research by Kim (2024) and Macuda (2025) indicates that there are still many substantive errors in digital financial reporting information in developing economies is often constrained by issues that undermine its reliability. Correspondingly, Darmawati et al. (2025) underscore an emerging shift toward Digital Financial Reporting (DFR) as a response to such limitations research and suggests the need for Developing a holistic theoretical framework to elucidate the interrelationships between information technology, governance, and financial reporting quality. From this initial review, it is clear that information technology Information technology plays a pivotal role in enhancing the reliability and overall quality of financial reporting, but its effectiveness varies significantly across countries and organizations. Previous studies have provided mixed views regarding the extent to which digitalization contributes to the transparency and value relevance of financial reports. Therefore, a systematic review is essential to map the direction, trends, and gaps in existing research.

Therefore, this research is focused on efforts to:

1. Identifying key research trends regarding the utilization of information technology within financial reporting in the 2020–2025 period.
2. Analyze the relationship between research based on theory, variables, and empirical results.
3. Identifying research gaps and providing future research directions in the context of digital financial reporting.

The findings of this research are projected to serve as able to explore theoretical contributions by expanding the corpus of literature related to digital-based financial reporting, in addition to offering policy guidance for practitioners, regulators, and academics in optimizing the utilization of information technology within the domains of accounting and finance.

## 2. METHODOLOGY

### 2.1 Research Approach

The present study employs a Systematic Literature Review (SLR) framework intended to critically examine and synthesize and synthesize findings from various empirical and conceptual studies that explore how information technology shapes financial reporting mechanisms. The SLR framework was chosen because it can provide a systematic and transparent overview of the development of theory, methodology, and research findings on a specific topic (Kitchenham, 2004).

This study adopted the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) model as the primary framework for identifying relevant articles through a process of discovery, sorting, evaluation, and final determination of the literature. Each PRISMA step ensures that the article selection process is objective, replicable, and well-documented.

### 2.2 Data Sources and Inclusion Criteria

The data analyzed came from 10 international scientific articles published between 2020 and 2025 and listed in reputable journal databases such as Scopus. The selection of articles was carried out purposively according to their relevance to the main theme, namely the role of information technology in increasing transparency and value relevance of financial reporting.

The inclusion criteria used are as follows:

1. Articles published between 2020 and 2025.
2. Articles focus on the topics of information technology in financial reporting, XBRL, digital financial reporting, or digital data-based disclosure.
3. Articles use empirical, theoretical, or qualitative analysis approaches relevant to the financial reporting context.
4. Articles are written in English and are available in open access form.

Meanwhile, benchmarks for literature removal include:

1. Literature that has weak relevance to digital financial reporting.
2. Non-scientific studies such as editorials, proceedings, or policy reports.
3. Articles that are not available in full-text form.

### 2.3 Literature Search and Selection Procedures

The search process was carried out using several academic databases, such as Scopus, with the following keyword combinations:

“Digital Financial Reporting”, “XBRL”, “Information Technology in Accounting”, “Transparency”, “Financial Reporting Quality”, and “Value Relevance”.

The article selection process is carried out based on four key steps of the PRISMA guidelines:

1. Identification: The initial search yielded approximately 150 scientific articles containing relevant keywords.
2. Filtering: A total of 90 articles were eliminated due to duplication and topic discrepancy.
3. Eligibility: A total of 50 articles were further reviewed based on abstracts and methodology; 40 articles did not meet the criteria due to their non-financial context.
4. Inclusions: A total of 10 final articles were selected for in-depth analysis (the list is based on the data in the Shara research framework table).

### 2.4 Data Analysis

The analysis was carried out using qualitative thematic techniques, namely grouping the literature based on:

1. Year and research area (2020–2025; Asia, Europe, America);
2. The theory used (Agency Theory, Stakeholder Theory, Information Asymmetry Theory, etc.);
3. Main variables (Transparency, Value Relevance, Corporate Governance, XBRL Adoption, Digital Financial Reporting);
4. Research methodology (quantitative, qualitative, or bibliometric);
5. Main results and findings.

This approach facilitates the identification of patterns of relationships between studies, developments in topic trends, and research gaps that have not been widely researched.

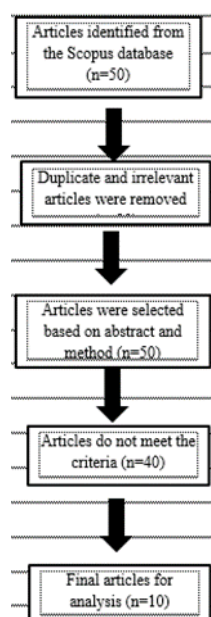
### 2.5 Validity and Reliability

To achieve an optimal level of validity and reliability, this study uses a series of procedures such as:

1. Source triangulation, namely comparing findings from various journals across countries;
2. Audit trail, with complete documentation of the search and selection stages;
3. Coding consistency, where themes and subthemes are categorized systematically to ensure that data interpretation remains objective.

### 2.6 Figure PRISMA Flow Diagram

The SLR process flow is illustrated in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework



### 3. RESULT AND DISCUSSIONS

#### 3.1 Overview of Search Results

Based on the results of a literature search from various scientific journals listed in the mapping table, a total of 10 main articles were obtained that were relevant to the theme of digital financial reporting and the application of information technology in financial reporting in the 2020–2025 period. These articles come from various country contexts (Indonesia, Russia, Poland, Japan, and other countries) and discuss various aspects of The digital transformation of financial reporting, exemplified by the adoption of XBRL, marks a significant shift toward greater transparency and automation in corporate disclosures, eXtensible Business Reporting Language), the influence of big data and artificial intelligence (AI), to the integration of sustainability principles (sustainability reporting) in modern reporting systems.

In general, the results of the review show that there are four main themes that have developed in the current literature, namely:

1. Digital transformation and automation of financial reporting.
2. Transparency, accountability, and value relevance of financial information.
3. Integration of sustainability reporting and the double materiality principle.
4. Implementation challenges and future research directions.

These four themes are interrelated and form a new conceptual framework for understanding how information technology Plays a pivotal role in enhancing the overall quality and effectiveness of modern financial reporting.

#### 3.2 Theme 1: Digital Transformation and Financial Reporting Automation

Digital transformation is the primary foundation for all developments in modern financial reporting. Research by Yunika Murdayanti & Ulupui (2020) emphasizes the importance of adopting XBRL in Indonesia's reporting system. XBRL implementation is considered capable of increasing the value relevance and efficiency of the reporting process, although it remains hampered by infrastructure readiness and human resource competency.

Similar findings were presented by Al-Okaily et al. (2024), who demonstrated that digitizing XBRL-based reporting not only simplifies information delivery but also reduces manual errors and accelerates the audit process. Meanwhile, Nissim (2022) broadened the scope of the analysis by highlighting the role of big data analytics in helping companies produce real-time and predictive financial reports.

From the overall literature, It can be concluded that digital technology exerts a positive effect on enhancing the quality and transparency of financial reporting efficiency and accuracy of financial reporting, but its effectiveness is highly dependent on institutional readiness and national policies.

### 3.3 Theme 2: Transparency, Accountability, and Value Relevance of Financial Information

Information technology significantly impacts the transparency and accountability of financial reporting. According to Bulyga et al. (2020), the low level of transparency among financial institutions in Russia is due to the limited implementation of consistent

digital reporting systems. Conversely, Al-Okaily et al. (2024) demonstrated that the use of XBRL-based digital systems can reduce information asymmetry between management and investors.

These studies indicate that digital reporting not only increases transparency but also strengthens the value relevance of financial reports in the eyes of investors. Technology enables the integration of non-financial information (such as ESG and sustainability data) into financial reports, thereby broadening the public's perception of a company's value.

Emerging trends indicate that digital reporting is becoming a critical element of modern corporate governance because it increases transparency and stakeholder trust in the company.

### 3.4 Theme 3: Integration of Sustainability Reporting and the Double Materiality Principle

The next significant development is the increasing attention to sustainability reporting. Azuma & Higashida (2024) and Kobiela-Pionnier & Karwowski (2024) highlight the importance of implementing the double materiality principle, a reporting approach that considers both the This study examines the bidirectional relationship between a company's environmental impact and its financial performance.

The integration of these principles into digital reporting systems reflects the evolution of reporting from mere regulatory compliance to accountability-based reporting. Digital technology acts as a bridge between financial and non-financial data, ultimately strengthening the credibility of reports and improving the quality of managerial decision-making.

Several studies emphasize that the development of digital reporting systems integrated with sustainability data is an inevitable future trend in the context of modern accounting.

### 3.5 Theme 4: Implementation Challenges and Future Research Directions

While the benefits of digital reporting have been widely demonstrated, several key challenges remain in its implementation. Kim (2024) and Macuda (2025) found that many organizations, particularly in developing countries, still face issues with digital data validity, processing errors, and incompatibility of reporting formats across platforms.

In addition, Darmawati et al. (2025) identified that current research trends are shifting towards conceptual analysis of Digital Financial Reporting (DFR) and emphasized the need for a multidisciplinary approach that combines technological, governance, and regulatory aspects.

From the overall research results, three main directions for future research can be identified:

1. Development of an integrative model that connects digital reporting, corporate governance, and stakeholder trust.
2. An international empirical study investigating the effects of XBRL adoption on reporting transparency and efficiency.
3. The application of AI and blockchain technology to ensure data reliability and the security of financial reporting information.

### 3.6 Figure 1. Thematic Map of Relationships Between Concepts

(I will make this conceptual figure in visual form in Word later, but here's the narrative explanation first)

Figure 1 illustrates the interrelationships between research themes. At the center of the diagram is "Digital Financial Reporting" as the central hub, surrounded by four main components:

1. Information Technology (XBRL, Big Data, AI)→ strengthen reporting efficiency and speed.
2. Transparency & Accountability→ foster stakeholder trust.
3. Sustainability & Double Materiality→ expanding the dimensions of reporting towards social responsibility.
4. Challenges & Future Research Directions→ describes gaps and opportunities for subsequent research innovation.

All these elements interact dynamically, showing that digital financial reporting no longer stands alone, but is a system that integrates technology, accountability, and sustainability into one conceptual whole

## 4. CONCLUSION

Based on a systematic review of ten scientific journals relevant to the topic of information technology in financial reporting, it can be concluded that digitalization has become a key factor the modernization of financial reporting systems has been driven by the integration of technologies such as XBRL, big data, artificial intelligence, and cloud computing, which collectively enhance reporting efficiency, speed, and accuracy.

Digitalization has also been shown to strengthen transparency and accountability, thereby reducing information asymmetry between management and external stakeholders. Cross-country studies show that organizations that implement comprehensive digital reporting systems have higher levels of openness and reliability compared to those using conventional systems.

Furthermore, new trends indicate a paradigm shift from simply compliance-based reporting to sustainability-based reporting, with the application of the double materiality principle. This shift signals that financial reporting now reflects not only a company's financial condition but also its social responsibility and environmental impact.

Conceptually, the relationships between the themes identified indicate that Digital Financial Reporting (DFR) serves as an integrative hub between information technology, corporate governance, and organizational sustainability. Thus, the digitalization of financial reporting is not merely a technical innovation, but rather part of a structural transformation in global corporate governance and accountability

### 4.1 Research Limitations

Although this research was conducted using a systematic methodology, it is important to identify several limitations. First, the number of articles analyzed was limited to the sources available in the mapping table and the specific time period (2020–2025), thus not covering the full range of recent research dynamics. Second, most of the reviewed studies have different geographic contexts, which may influence differences in empirical findings across countries.

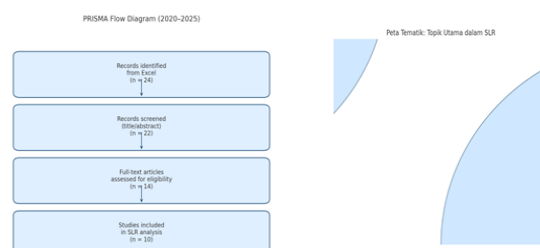
Furthermore, several articles have not explicitly explained the theoretical model linking technology adoption and financial reporting quality, so generalizations of the findings require caution. Regulatory differences, digital infrastructure readiness, and organizational culture are also variables that can influence the effectiveness of digital reporting implementation.

### 4.2 Future Research Directions

Based on the identified research gaps, several potential directions for future studies can be proposed, including.:

1. Development of a more integrative conceptual model— which connects digital technology, corporate governance, and financial transparency within a single theoretical framework.
2. Cross-country and cross-sector empirical studies, to assess the impact of the implementation of XBRL, big data, and AI on reporting quality and investor confidence.
3. Exploration of new technologies such as blockchain and machine learning in ensuring the security, validity, and reliability of digital financial reporting data.
4. Analysis of the relationship between digital reporting and sustainability, particularly in the context of double materiality, to assess how digital reporting can strengthen corporate social responsibility.
5. Multidisciplinary approach, which involves the fields of accounting, information systems, and public policy to create an adaptive and sustainable digital reporting system.

Through this research direction, it is hoped that in the future a more comprehensive understanding will be formed regarding the strategic role of information technology in supporting organizational transparency and sustainability.



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