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Digital Transformation in Accounting: Peran Accounting Information Systems dalam Mendorong Aksesibilitas Data

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Abstrak

This research explores the impact of digital transformation on Accounting Information Systems (AIS) with a specific focus on improving data accessibility in the modern financial environment. The rapid advancement of digital technologies has encouraged organizations to adopt more sophisticated and integrated accounting systems to support faster and more transparent financial reporting. By utilizing a systematic literature mapping approach, this study analyzes 27 peer-reviewed articles published between 2021 and 2026 in order to synthesize current technological developments, implementation strategies, and structural challenges related to the digitalization of accounting systems. The findings reveal that the integration of emerging technologies such as Artificial Intelligence (AI), cloud computing, and blockchain plays a crucial role in enhancing the efficiency, reliability, and accessibility of financial data. These technologies enable real-time financial transparency, improve operational intelligence, and strengthen internal control mechanisms within organizations. Furthermore, the study shows that digital technologies can significantly accelerate the distribution of accounting information and potentially reduce fraud risks by up to 85 percent. However, the effectiveness of these technologies is not determined solely by technical capabilities. Non-technical factors, including organizational culture, digital readiness, employee competence, and the presence of technical debt, strongly influence the success of AIS implementation. Therefore, achieving optimal data accessibility requires a balanced synergy between advanced technological infrastructure and a proactive digital mindset within the workforce. These findings highlight the importance of modernizing accounting education curricula to address the growing digital skills gap and support sustainable digital maturity in the accounting profession.

Kata kunci: Digital Transformation; Accounting Information Systems; Data Accessibility; Artificial Intelligence; Cloud Computing

1. Introduction

Digital transformation is now seen as a major force driving fundamental changes in various organizational activities, including accounting. Global innovations such as cloud computing, big data analytics, automation, and intelligent information systems have accelerated the digitization of financial reporting while improving the quality and accessibility of accounting data. These dynamics require entities to implement Accounting Information Systems (AIS) that are capable of generating real-time, accurate, and cross-functional integrated information. At the national level, the digitization agenda is also placed as a strategic priority to strengthen governance, transparency, and the credibility of financial information in the public and private sectors. Hence, analyzing the contribution of AIS to improving data accessibility within the framework of digital transformation is a crucial topic that needs to be examined through a systematic scientific approach.

The study of digital transformation in the accounting field has seen significant growth in recent years. Meraghni et al., (2021) stated that digitalization contributes to increased transparency and efficiency while facilitating access to financial data through the use of the latest technology. Furthermore, (Hamdy et al., 2025) found that the implementation of digital transformation in the public sector has a positive impact on the quality of AIS, particularly in terms of information accessibility and reliability. Balicka, (2023) also emphasizes that the use of digital technology strengthens the decision-making process by providing data that is easier to obtain and analyze. However, the variety of theoretical and methodological approaches used in these studies still shows quite significant differences and is not entirely consistent.

These differences in perspective reflect the fragmentation of knowledge, especially in explaining the role of AIS in facilitating data accessibility in the era of digital transformation. Some studies focus on the dimension of information quality, while others examine the comparability of reports, the effectiveness of internal controls, or

developments in accounting technology. For example, Yang et al., (2024) examined the impact of digital transformation on the level of comparability of accounting information without specifically discussing data accessibility. Meanwhile, Daway et al., (2025) focused their analysis on the influence of digital transformation on accounting information systems on the effectiveness of internal control in organizations. This condition confirms the lack of a comprehensive synthesis that integrates various perspectives on the relationship between digital transformation and increased data accessibility through AIS.

In addition, previous studies have also shown inconsistencies regarding the impact of digital transformation on the ease of access to accounting information. Some studies report a significant increase in the speed and ease of obtaining data (Surya, 2024), but other studies highlight obstacles such as organizational capacity, integration between systems, and potential information security risks. These different findings indicate a research gap, which is the lack of a systematic review that particularly maps the relationship between digital transformation, AIS functions, and data accessibility in a comprehensive manner.

Based on this background, this study aims to compile a Systematic Literature Review (SLR) that consolidates previous findings, identifies methodological patterns and trends, and reveals existing research gaps. This SLR focuses on answering several key questions, including: how digital transformation affects the role of Accounting Information Systems in improving data accessibility; which factors, technologies, and mechanisms act as drivers or barriers to improving data accessibility through AIS in a digital context; and what are the trends in theoretical and methodological approaches to research in the period 2021–2026. Theoretically, this research is expected to contribute a comprehensive synthesis that connects the conceptual framework of AIS, digital technology, and information accessibility. From a practical perspective, the results of this study are expected to form the basis for evidence-based recommendations for organizations, accounting practitioners, and regulators in formulating more effective accounting digitalization strategies.

The scope of this research covers publications from 2021 to 2026, including empirical and conceptual studies that discuss digital transformation and AIS, and focuses on business and public sector organizations without specific geographical limitations. The scope is intended to enable this study to represent the latest developments while accommodating variations in context and relevant research approaches.

2. Theoretical Basis

2.1. Information Processing Theory (IPT)

Digital Accounting Information Systems (AIS) bridge the gap between infrastructure and real-time data accessibility by leveraging advanced technologies to enhance information processing capacity. The integration of artificial intelligence (AI) and edge computing (EC) in AIS allows for efficient data collection, processing, and storage, addressing the challenges posed by large data volumes and the need for timely decision-making (Zhen & Zhen 2024). These systems utilize IoT for real-time data capture, blockchain for secure data storage, and XBRL for standardized reporting, ensuring accurate and transparent financial information (Nofel et al., 2024). Additionally, big data mining algorithms optimize data processing, significantly improving efficiency and accuracy (Yang, 2025). The adoption of these technologies in AIS not only modernizes accounting practices but also enhances the ability to process and analyze vast amounts of data in real-time, thereby supporting strategic decision-making and maintaining competitiveness in the industry.

2.2. Technology Acceptance Model

The concept of 'Perceived Ease of Use' (PEOU) within the Technology Acceptance Model (TAM) is pivotal in driving the adoption and effective utilization of digital Accounting Information Systems (AIS) by stakeholders. PEOU refers to the degree to which a user believes that using a particular system would be free of effort. In the context of digital AIS, PEOU significantly enhances data accessibility for stakeholders by reducing technical barriers and fostering real-time transparency. Studies have shown that when users find AIS easy to use, their satisfaction and intention to use the system increase, which in turn improves the overall efficiency and effectiveness of financial data management and decision-making processes (Alhumoudi, 2024; Andarwati et al., 2020; Silva et al., 2025). For instance, research conducted on SMEs in East Java, Indonesia, demonstrated that PEOU positively influences the perceived usefulness of AIS, which is a critical determinant of user satisfaction and system adoption (Andarwati et al., 2020). Similarly, another study highlighted that the ease of use of emerging technologies like Robotic Process Automation (RPA) and Artificial Intelligence (AI) in accounting significantly impacts accountants' intention to adopt these tools, thereby facilitating the digital transformation in the accounting field (Silva et al., 2025).

Moreover, the user-friendliness of digital AIS contributes to reduced technical barriers, making it easier for stakeholders to access and interpret financial data in real-time. This reduction in complexity is crucial for enhancing data transparency and trust among users. For example, a study on the adoption of AI-based decision support systems (AI-DSS) found that perceived ease of use significantly affects perceived usefulness, which in turn influences the intention to adopt these systems, ultimately leading to improved decision-making efficiency (Bondac et al., 2026). Additionally, the integration of intuitive interfaces and user-friendly designs in AIS can lower the cognitive burden associated with system usage, thereby increasing user engagement and satisfaction (Alhumoudi, 2024). This is particularly important in complex organizational contexts where data heterogeneity and bounded rationality pose significant challenges to strategic decision-making (Bondac et al., 2026). By ensuring that digital AIS are easy to use, organizations can enhance data accessibility, promote real-time transparency, and support more informed and timely decision-making processes for all stakeholders involved.

2.3. Resource Based View and Digital Accounting Information Systems (AIS)

The Resource-Based View (RBV) framework posits that an organization's ability to achieve and maintain a sustainable competitive advantage is determined by its control over resources that are valuable, rare, inimitable, and organized (VRIO) (Barney, 1991). In the modern business landscape, digital transformation has redefined these resources. According to Vial (2019) digital transformation is a process where digital technologies trigger disruptions that compel organizations to alter their value-creation paths. Within this perspective, digital infrastructure is no longer a static asset but a dynamic catalyst that reshapes how an organization processes and utilizes information to stay competitive.

Integrating this theory with accounting practices, Accounting Information Systems (AIS) have evolved from mere administrative support tools into strategic IT capabilities. Nwankpa and Roumani (2020) argue that a firm's IT capability is a critical driver of successful digital transformation and firm-level performance. When a digitalized AIS is leveraged as a strategic resource, it significantly enhances data accessibility and transparency, allowing for real-time information flow. By transforming raw financial data into a liquid and accessible strategic asset, organizations can reduce information asymmetry and improve decision-making agility, thereby fulfilling the VRIO criteria and securing a superior position in a dynamic market environment.

3. Methodology

This study employs a Narrative Literature Review (NLR) approach to construct a comprehensive synthesis regarding digital transformation within accounting systems. Unlike a systematic review which can be overly mechanistic, the narrative method was selected because it allows the authors from the Accounting Department at Universitas Sriwijaya to perform a critical interpretation and link core theories such as Information Processing Theory (IPT) and Resource Based View (RBV) to the phenomenon of data accessibility in a more fluid and profound manner. The primary focus of this approach is to map the evolution of Accounting Information Systems (AIS) functions and identify how the integration of digital technologies alters information distribution patterns within organizations without being limited solely to statistical data aggregation. Through this integrated narrative, the methodology aims to provide a holistic overview of the role of current technology in enhancing information transparency for stakeholders.

The literature identification process was conducted through an electronic search of international journal databases with a primary focus on Scopus to ensure that the analyzed sources maintain globally recognized academic quality standards. The search strategy utilized a combination of keywords including Digital Transformation, Accounting Information Systems, Data Accessibility, and Cloud Accounting. To maintain the relevance and novelty of the information, a strict boundary was set for literature published from 2021 to 2026. This specific timeframe was chosen due to the acceleration of digital technology after the pandemic which has significantly redefined accounting practice standards across various sectors on both national and international levels.

The selection criteria for the articles were purposively defined, requiring all reviewed documents to be peer reviewed scientific articles indexed within the Scopus database. Notably, the researchers decided not to restrict the search to specific quartile rankings from Q1 to Q4 to obtain a broader perspective that encompasses a variety of research contexts from different regions and organizational levels. The selected articles include both empirical and conceptual studies discussing the implementation of digital technology in business and public sectors. However, to maintain the validity of the arguments, documents other than journals such as books, book chapters, and conference proceedings were excluded, ensuring that the synthesized theoretical foundations remain based on credible and periodic research findings.

The final stage of this methodology involves thematic synthesis where the collected literature is analyzed based on key themes relevant to the research questions. The literature is categorized into several primary discussion clusters: technological drivers, system implementation barriers, and the strategic impact on the transparency and accessibility of accounting information. This synthesis process is performed by comparing findings across different literature sources to uncover dominant theoretical and methodological trends during the observation period. This narrative methodology approach is expected to address the research gap regarding how accounting information systems function as catalysts in democratizing financial data access in the digital era.

4. Research Result

4.1. Journal Classification Based on Identity, Index and Number of Journals

The journal classification process was executed in accordance with established literature selection criteria, specifically targeting internationally reputable journals to ensure a robust foundation for the identification of valid and relevant trends. Following this selection procedure, a total of 27 articles focusing on research regarding digital transformation and accounting information systems were identified, covering the timeframe from 2021 to 2026. Table 1 below illustrates the distribution of articles across these journals, detailing their Scopus indexed rankings within the Q1, Q2, Q3, and Q4 categories.

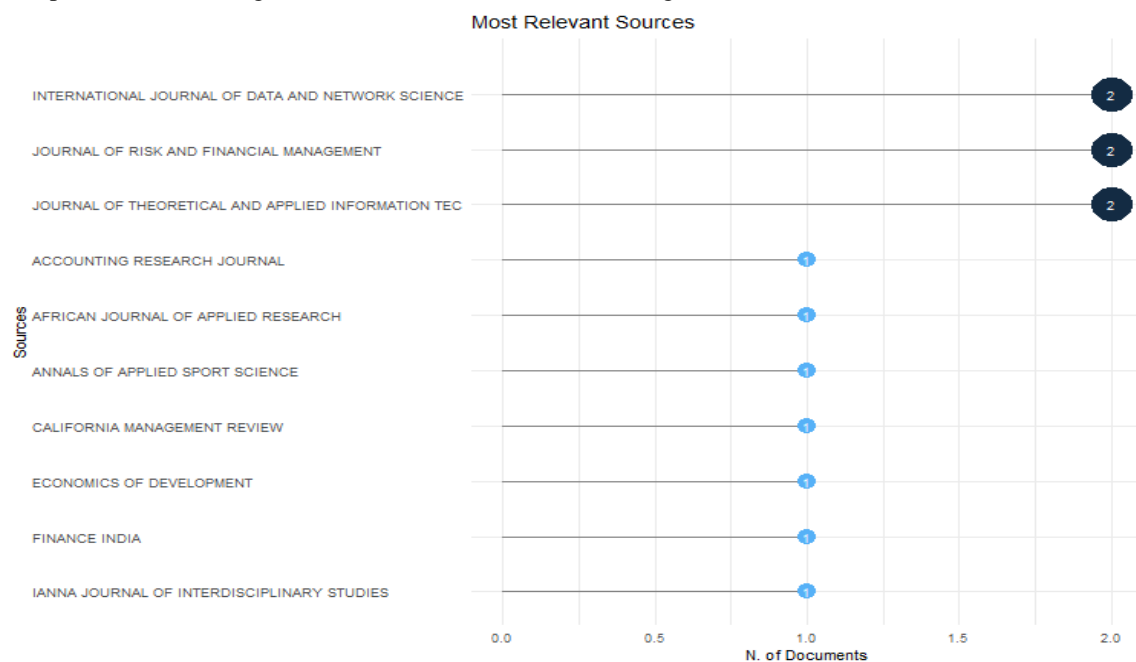


Table 1. Journal classification based on Identity, Index and Number of Journals

Sources	Articles	Index
INTERNATIONAL JOURNAL OF DATA AND NETWORK SCIENCE	2	Q2
JOURNAL OF RISK AND FINANCIAL MANAGEMENT	2	Q2
JOURNAL OF THEORETICAL AND APPLIED INFORMATION TECHNOLOGY	2	Q4
ACCOUNTING RESEARCH JOURNAL	1	Q2
AFRICAN JOURNAL OF APPLIED RESEARCH	1	Q4
ANNALS OF APPLIED SPORT SCIENCE	1	Q3
CALIFORNIA MANAGEMENT REVIEW	1	Q1
ECONOMICS OF DEVELOPMENT	1	Q2
FINANCE INDIA	1	Q4
IANNA JOURNAL OF INTERDISCIPLINARY STUDIES	1	Q1
INFORMATICS	1	Q1

INTERNATIONAL JOURNAL OF ACCOUNTING INFORMATION SYSTEMS	1	Q1
INTERNATIONAL JOURNAL OF ADVANCED AND APPLIED SCIENCES	1	Q3
INTERNATIONAL JOURNAL OF FINANCIAL STUDIES	1	Q2
INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT	1	Q1
JOURNAL OF ACCOUNTING AND ORGANIZATIONAL CHANGE	1	Q1
JOURNAL OF ECOHUMANISM	1	Q3
JOURNAL OF OPEN INNOVATION: TECHNOLOGY, MARKET, AND COMPLEXITY	1	Q1
JOURNAL OF VASYL STEFANYK PRECARPATHIAN NATIONAL UNIVERSITY	1	Q4
SCIENTIFIC AFRICAN	1	Q1
SCIENTIFIC BULLETIN OF MUKACHEVO STATE UNIVERSITY. SERIES ECONOMICS	1	Q3
SCIENTIFIC REPORTS	1	Q1
SUSTAINABILITY (SWITZERLAND)	1	Q1
ZESZYTY TEORETYCZNE RACHUNKOWOSCI	1	Q4
Total	27	

The data presented in Table 1 reveals that the research is disseminated across a diverse range of high-quality international journals, with a prominent concentration in the Q1 and Q2 quartiles. This distribution signifies that the academic discourse on accounting information systems and data accessibility has reached a level of maturity and high scholarly interest. The inclusion of esteemed publishers such as Elsevier, Nature Portfolio, SAGE, and Emerald reinforces the reliability and global relevance of the insights derived from these 27 articles. Furthermore, the presence of various specialized journals indicates that the impact of digital transformation in accounting is being examined from multiple interdisciplinary perspectives, including technology management, sustainability, and applied sciences.

5.1. Based on Country Research

The geographical analysis of the selected literature indicates that research concerning the digital transformation of accounting information systems is predominantly concentrated in Ukraine, with a total of 15 publications. This significant volume of research highlights the region's intense focus on modernizing financial infrastructures and enhancing digital resilience within the accounting profession. The complete distribution of research sample locations, derived from the scientific production data, is presented in Table 2.

Table 2. Distributiin of Research by Country

Region	Freq
UKRAINE	15
INDIA	6
IRAQ	5
PORTUGAL	5
JORDAN	4
SAUDI ARABIA	3
UNITED ARAB EMIRATES	3
AUSTRALIA	2
BAHRAIN	2
CHINA	2

BANGLADESH	1
CROATIA	1
GHANA	1
GREECE	1
INDONESIA	1
POLAND	1
ROMANIA	1
SWEDEN	1
TURKEY	1
Total	31

Figure 1. Country Scientific Production

Country Scientific Production



As illustrated in Table 2, while Ukraine serves as the primary hub for scholarly contributions in this field, the research landscape is geographically diverse, spanning across Asia, Europe, and the Middle East. Although Indonesia currently contributes one publication to this specific dataset, its inclusion underscores the growing global relevance of digital accounting transformation as a critical issue for both developing and developed economies. This international distribution reflects a shared scholarly effort to address universal challenges such as technical debt, real-time data accessibility, and the evolving digital competencies required in modern accounting.

5.2. Research Evolution and Dissemination of Digital AIS

The development of research on the influence of digital transformation and the evolution of accounting information systems toward enhanced data accessibility has increased significantly in recent years. This growth reflects the urgent need for organizations to transition from traditional manual registries to intelligent systems capable of providing real time operational intelligence.

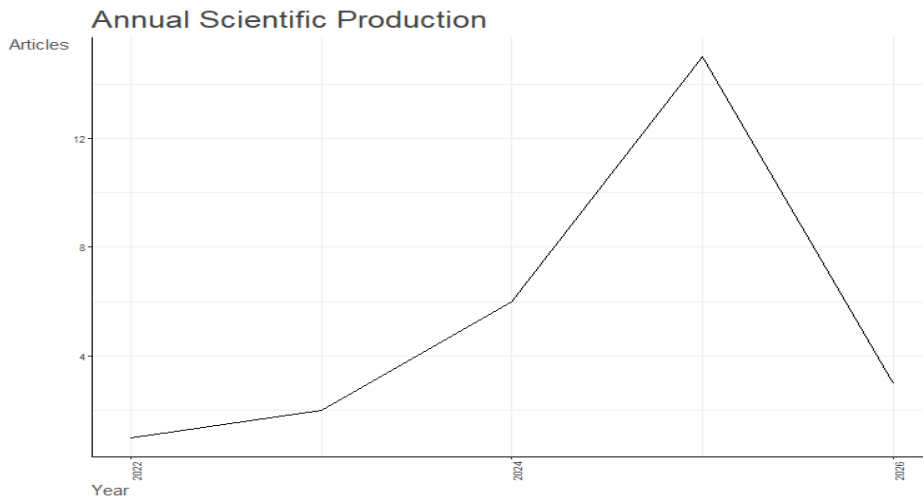


Figure 2. Annual Publication Trend in Digital Accounting Transformation (2022-2026)

The graph above illustrates the number of identified articles discussing digital transformation and accounting systems over the period 2021 to 2026. Overall, the trend shows a steady progression followed by an exponential surge in recent scholarly output. In 2022, only 1 article was identified, followed by 2 articles in 2023 and 3 articles in 2024. However, the year 2025 witnessed a significant spike with 18 articles published, accounting for approximately 66.7 percent of the total dataset. The trend remains robust in 2026 with 3 articles already documented, confirming that this topic continues to dominate the current academic discourse.

This surge in 2025 and 2026 is largely driven by the rapid adoption of Industry 4.0 technologies such as artificial intelligence, blockchain, and cloud computing. Evidence suggests that nearly 98 percent of accounting professionals have already begun utilizing intelligent systems to analyze financial indicators, further fueling publication interest. This trend highlights a substantial increase in research activity as academic journals become the primary medium for disseminating knowledge on how digital capabilities translate into durable professional competencies. Overall, Figure 2 reflects the dynamic and positive trajectory of research in this field, emphasizing that digital maturity is no longer optional but a strategic prerequisite for modern accounting practices.

5.3. Categorization of Previous Research Findings

Table 3. Categorization of Previous Research Findings

Penelitian Sebelumnya	Hasil
(Abhishek et al., 2024; Almarri et al., 2025; Almgrashi & Mujalli, 2025; Anomah et al., 2027; Arslan & Güneş, 2023; Babar, 2025; Cai, 2026; Fahdil et al., 2024; Gnatiuk et al., 2023; Hnatyshyn et al., 2025; Masoud, 2024; Mohammad et al., 2025; N et al., 2025; Nam et al., 2025; Poprozman et al., 2025; Sampaio & Silva, 2025; Seceleanu et al., 2026; T et al., 2024; Thanasas et al., 2026)	+
(Asatiani et al., 2025; Jos & Ferreira, 2022; Obaid, 2024; Zhang & Su, 2025)	-
(Akter et al., 2024; Hasan et al., 2025; Leo & Margaretha, 2025; Romic et al., 2025)	Netral

This section provides a comprehensive synthesis of the selected articles by categorizing their empirical findings into three primary dimensions: positive impacts, negative impacts or barriers, and neutral or moderating effects. As illustrated in the subsequent table, the majority of the literature highlights the positive influence of digital transformation, emphasizing how technologies such as Artificial Intelligence, blockchain, and cloud computing significantly enhance data security, operational efficiency, and real time accessibility. However, the synthesis also critically acknowledges negative barriers like technical debt

and identity discrepancies, alongside neutral perspectives that stress the indispensable role of organizational culture and human resource readiness in achieving a successful digital transition.

5. Results and Discussion

5.1. Technological Integration of AI and Big Data in Accounting

The integration of Artificial Intelligence and Big Data has fundamentally shifted accounting practices from retrospective documentation to real time operational intelligence. The literature confirms that 98 percent of accountants now utilize Artificial Intelligence to analyze financial indicators, which significantly accelerates data processing (Petrukha et al., 2025). Advanced algorithmic models, such as the neural network proposed by Cai (2026), achieve a 96.3 percent prediction accuracy, ensuring that the accessed data is automatically cleared of anomalies. Similarly, Arslan and Güneş (2023) demonstrate that deep learning techniques within enterprise systems provide an additional security layer, maintaining the integrity of financial data against complex fraud patterns. The capacity for high speed data accessibility is further proven by Babar (2025), whose ensemble learning architecture processes 10.000 records per second with a mere 150 milliseconds latency.

Furthermore, the utilization of software bots facilitates shared document access and remote monitoring, which removes physical boundaries in accessing financial data (Gnatiuk et al., 2023). Sampaio and Silva (2025) argue that these intelligent systems enable predictive analytics, shifting the focus from descriptive tasks to proactive management insights. Thanasas et al. (2025) reinforce this by highlighting that the integration of Big Data and Internet of Things significantly reduces data input errors and shortens audit cycles. Ravikumar et al. (2025) conclude that such modern technologies are specifically designed for broadening access to financial services, ensuring that users can conduct transactions anytime and anywhere. Collectively, these studies indicate that Artificial Intelligence not only accelerates the availability of information but also ensures the reliability and accuracy of the data presented to stakeholders.

5.2. Strategic Impact of Blockchain and Cloud on Transparency

Cloud computing and blockchain technology serve as the foundational infrastructure for democratizing data access within modern organizations. Poprozman et al. (2025) report that cloud implementations allow the processing of over 1 million transactions daily with 99.98 percent accuracy. This technology effectively removes physical boundaries, a point supported by Hnatyshyn et al. (2025) who note that cloud platforms provide unrestricted data access and reduce operational costs significantly. Abhishek N. et al. (2025) also find that cloud based systems empower management to access financial data from anywhere in real time. Similarly, Gonçalves et al. (2022) state that digital archives democratize information access for users without requiring physical presence at the office.

Regarding security and transparency, blockchain offers an immutable ledger that prevents manipulation. Alnaimat et al. (2025) highlight that this immutable nature is key to preventing fraud and providing reports instantly. Leo et al. (2025) assert that decentralization mitigates data manipulation risks and increases overall information reliability. Fahdil et al. (2025) provide quantitative evidence showing an 85 percent reduction in fraud incidents and a 30 percent reduction in audit time through blockchain integration. This transparent environment is crucial for building public trust, as demonstrated by Seceleanu et al. (2025) in public sector applications where citizens can verify fund allocations independently. Anomah et al. (2025) also confirm this utility in tracking digital economy tax transactions accurately. Ultimately, Almgrashi and Mujalli (2025) conclude that high data quality, perceived usefulness, and reliability are the primary drivers for professionals adopting these transparent systems.

5.3. Socio-Organizational Dynamics and System Standardization

Technology alone is insufficient to guarantee accessibility without proper standardization and a supportive organizational culture. Nam et al. (2025) argue that standardizing accounting information systems through digitalization creates consistent workflows, making data highly accessible and understandable to all stakeholders. This internal standardization is complemented by global frameworks, as Masoud (2025) proves that the adoption of international standards like IFRS and IPSAS significantly reduces information asymmetry and increases financial transparency across jurisdictions. Therefore, standardizing both the technological tools and the reporting rules is paramount for ensuring high quality data output.

Furthermore, the human element remains a critical moderating factor in the success of these systems. Hasan et al. (2025) emphasize that the effectiveness of digital technology in providing timely information heavily

depends on an organizational culture that supports continuous learning and innovation. A rigid culture acts as a boundary that limits the full potential of digital tools. Obaida (2025) reinforces this by stating that building a digital culture and a digital mindset is essential for ensuring transparency and ease of access for every individual within the organization. These findings suggest that management must actively foster an environment open to change to maximize the benefits of data accessibility.

5.4. Overcoming Technical Debt and Skills Gap in Digital Transformation

Despite the overwhelming benefits, the transition to digital accounting systems is fraught with significant barriers that must be strategically managed. Asatiani et al. (2025) identify technical debt from legacy systems as a critical obstacle that consumes IT resources and restricts organizational flexibility. When data is trapped in these rigid legacy systems, seamless information openness is severely hindered. Strategic misalignment can also be detrimental, as Zhang and Su (2025) warn that identity discrepancy and reckless expansion during digital transitions can lead to severe financial distress and organizational failure.

Moreover, human resistance and educational deficits pose a substantial challenge to implementation. Almarri et al. (2025) highlight employee resistance driven by a lack of skills and fear of replacement as primary hurdles. This is echoed by Akter et al. (2025) who note that a lack of knowledge regarding the benefits of new systems like blockchain severely hinders technology adoption. To resolve this systemic issue, Rep Romić et al. (2025) assert that addressing the current skills gap requires a fundamental modernization of accounting education. Universities must integrate advanced data analytics and Artificial Intelligence into their curricula to equip future professionals with the necessary competencies to manage transparent and accessible digital information systems.

4. Conclusion

The systematic analysis of the identified research indicates that digital transformation serves as the primary catalyst for significantly improving data accessibility within modern accounting information systems. This transition has successfully moved the accounting profession from traditional registries toward intelligent platforms capable of providing real time operational intelligence. The integration of advanced technologies such as Artificial Intelligence and Big Data has enhanced reporting efficiency and accuracy, while the implementation of blockchain and cloud computing acts as a vital driver for democratizing data access. These digital tools effectively reduce fraud risks and remove physical boundaries in information distribution. Nevertheless, the findings highlight that the effectiveness of these technological advancements is heavily contingent upon non technical factors including a supportive organizational culture and a proactive digital mindset. Ultimately, while digital maturity offers substantial benefits for transparency, structural barriers such as technical debt and the existing skills gap remain significant challenges that must be addressed for sustainable professional growth.

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