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Digital Transformation in Accounting and its Impacts on the Sustainable Performance of Organizations: An Integrative Review

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ABSTRACT

Digital transformation has promoted profound changes in organizational models, directly impacting accounting. Digital technologies have expanded the role of the area, making it strategic for the generation of sustainable value and decision support. Given this scenario, the objective of this study is to analyze the impacts of digital transformation on accounting and its relationship with the sustainable performance of organizations, through an integrative literature review. The bibliographic survey covered the period from 2020 to 2025, in databases such as Web of Science, Scopus, and Google Scholar, with content analysis applied to the organization of results into thematic categories. The findings were systematized in four axes: (1) quality of accounting information, (2) digital auditing, (3) ESG and sustainability, and (4) transparency and governance. The results show that digitalization increases trustworthiness, integrates sustainable practices, and strengthens governance, but faces barriers such as costs, regulatory gaps, and cultural resistance. It is concluded that digital transformation strengthens the strategic role of accounting, but its effectiveness depends on consistent institutional arrangements, regulatory standardization, and professional training.

INTRODUCTION

Digital transformation has reshaped contemporary organizational models, driving significant changes in the way processes are managed, especially in strategic areas such as accounting. The advancement of information and communication technologies, combined with the demands of transparency and corporate responsibility, has expanded the role of accounting beyond registration and control, positioning it as a critical tool for decision-making and the generation of sustainable value. As noted by Santos *et al.* (2023), the digitalization of accounting processes not only promotes greater agility and efficiency in routines, but also favors the integration of performance indicators linked to sustainability, strengthening organizational performance in the face of contemporary challenges.

Faced with the growing demand for more responsible and sustainable corporate practices, accounting is at an inflection point, in which its digital transformation becomes not only a technical requirement but a strategic condition for organizational repositioning. The integration of emerging technologies, such as automation, artificial intelligence, and predictive analytics, has broadened the scope of accounting functions, allowing alignment between economic performance, environmental responsibility, and governance. In this context, it is relevant to analyze how digital transformation in accounting influences the sustainable performance of organizations through an integrative literature review.

LITERATURE REVIEW

Schumpeter (1934) defines innovation as a fundamental engine of economic development, capable of breaking with existing structures and establishing cycles of creative destruction that reconfigure entire sectors. This vision highlights the entrepreneur as a catalyst for change, attributing to him a central role in the generation of new markets and the elimination of obsolete practices. However, Teece (2010) warns that open innovation models can imply leakage of strategic knowledge and loss of competitiveness, especially when there are no intellectual protection mechanisms. Arundel *et al.* (2019) complement this critique by emphasizing that innovation in the public sector requires robust governance structures to ensure institutional alignment and preserve knowledge gains. This initial tension reveals that innovation, although a pillar of growth, is not exempt from structural and institutional risks.

According to Chesbrough (2003), the transition from closed models to collaborative dynamics, typical of open innovation, accelerates technological development by integrating external and internal knowledge flows. For the author, collaborative networks and digital hubs strengthen innovative ecosystems and expand the capacity for collective impact. However, West and Bogers (2014) counter that, without adequate value capture policies, companies may not obtain a return proportional to the investment in research and development, which weakens long-term sustainability. Al-Gsim *et al.* (2021)

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reinforce that Technological Innovation Centers enhance knowledge transfer and the creation of startups, but face barriers such as bureaucracy and cultural resistance. Thus, it is evident that the effectiveness of open innovation depends not only on networks, but also on solid regulatory and institutional frameworks.

In the context of social innovation, Mulgan (2006) argues that the focus shifts from profit maximization to collective impact, favoring social inclusion and cognitive justice. For the author, this process requires the active participation of multiple actors and constant adaptation to territorial specificities. According to De Matos *et al.* (2024), social innovation is strengthened by the third sector's ability to articulate collaborative practices, promote co-creation of solutions, and get closer to local communities, resulting in more consistent changes in vulnerable territories. Social innovation contributes to sustainable development by integrating social inclusion, responsible environmental practices, and hybrid business models aimed at the public good. However, Mulgan (2012) counters by emphasizing that such initiatives only achieve a transformative character when accompanied by an effective redistribution of institutional power, warning that, in many contexts, public support and multisectoral articulation remain insufficient to expand the reach of their impacts.

However, Murray, Caulier-Grice, and Mulgan (2010) observe that the evaluation of these initiatives is hampered by the absence of metrics capable of capturing diffuse positive externalities, limiting the proof of their economic effectiveness. De Sousa Santos (2007) expands this criticism by arguing that, without incorporating peripheral epistemologies, social innovation tends to reproduce inequalities and perpetuate cognitive colonialities. Thus, social innovation emerges as a relevant alternative, but its effectiveness depends on plural evaluative frameworks and the valorization of local knowledge.

In the debate on the third sector, González-Moreno *et al.* (2020) point out that non-state and non-profit organizations play a central role in promoting sustainable innovation models, especially by intermediating demands that the State and the market do not absorb. Regarding the role of the third sector, Barros *et al.* (2025) point out that these organizations should not be seen only as substitutes for the gaps left by the State and the market, but as true laboratories of social and organizational experimentation. From a convergent perspective, Nascimento *et al.* (2025) highlight that the logic of the Fivefold Helix integrates university, government, industry, civil society, and the environment, attributing to the third sector the function of legitimizing inclusive policies and fostering socio-environmental justice. However, Rexhepi *et al.* (2020) counter that the effectiveness of the sector depends on the degree of maturity of interinstitutional networks and the existence of robust evaluation instruments. In this sense, Silva *et al.* (2024) reinforce that helical arrangements only achieve real impact when adapted to local institutional conditions, while Delmondes *et al.*

(2024) add that collaborative practices are more effective when supported by regulatory frameworks adjusted to peripheral realities.

In the field of organizational innovation, Campana *et al.* (2025) emphasize that the adoption of innovative practices in the institutional context of the third sector occurs through the articulation of internal competencies, strategic alliances, and the incorporation of different governance logics. According to the same group, the differential lies in the flexibility of organizational structures, which allows for the rapid mobilization of resources financial, human, and symbolic in response to emerging and specific demands of the communities served. However, Chesbrough and Bogers (2014) counter that, although innovative organizations in the third sector can serve as a model for knowledge transfer and social value generation, they often face regulatory obstacles, scarcity of stable funding, and difficulties in measuring results on a large scale, which limits the systematic adoption of adaptive innovative processes.

According to Campana *et al.* (2025), the integration of environmental accounting into governance practices strengthens transparency and increases the relevance of accounting information for strategic decisions aimed at sustainable development. The authors point out that socio-environmental indicators, when incorporated into business reports, contribute to credibility gains and attraction of responsible investments. However, they also point to significant limits, such as the absence of regulatory standardization, implementation costs, and the risk of greenwashing practices, which can weaken the effectiveness of these initiatives in highly competitive contexts.

According to Viana *et al.* (2025), environmental governance and ESG reporting reflect, to a large extent, institutional and regulatory pressures, associated with the so-called coercive isomorphism. In countries with solid institutional frameworks, such mechanisms produce concrete advances in terms of accountability, while in fragile environments, symbolic adherence prevails, with merely formal compliance. This divergence reveals that governance only generates real impact when accompanied by regulatory enforcement and institutional capacity to monitor and evaluate results; otherwise, there is a risk of trivializing the very logic of corporate sustainability.

Sousa *et al.* (2025) expand the analysis by observing that the implementation of the Sustainable Development Goals in environmental policies depends on intersectoral governance and the active participation of civil society. For the authors, successful integration experiences reveal that cooperation between the State, the market and the third sector favors the coherence and effectiveness of policies. However, the study also points out that financial barriers, political instability, and institutional resistance remain critical obstacles, limiting the ability to consolidate sustainable models at scale.

Regarding the role of education, Pereira *et al.* (2025) argue that strengthening socio-environmental skills is essential

to consolidate sustainable practices and support ESG governance. This perspective highlights the importance of professional training and citizen awareness as instruments of cultural and institutional change, capable of sustaining lasting transformations. However, the authors identify weaknesses in the evaluation instruments and gaps in formal curricula, which compromises the consolidation of effective practices, especially in countries of the Global South, where relevant educational and institutional inequalities persist.

Monteiro *et al.* (2025) complement the debate by pointing out that interinstitutional open innovation arrangements can enhance the adoption of ESG practices, strengthening collaborative processes and accelerating the integration of the SDGs into public policies and business strategies. However, they point out that such initiatives often come up against asymmetries of interest, regulatory gaps, and difficulties in coordination between actors, which limits their replicability in contexts of low institutional maturity. Thus, it is evident that the adoption of ESG and SDG agendas depends not only on technical innovations, but on political and social arrangements capable of sustaining their continuity.

MATERIALS AND METHODS

The present study adopted as a methodological strategy the integrative literature review, with the purpose of identifying, analyzing and systematizing the scientific knowledge about the digital transformation in accounting and its impacts on the sustainable performance of organizations. This method was selected because it allows the construction of a comprehensive view of the phenomenon, by integrating results from different theoretical and empirical approaches, ensuring the identification of convergences, divergences, and gaps in academic production.

The bibliographic survey was conducted in databases recognized for their robustness and scientific relevance, including Web of Science, Scopus, Google Scholar, among other complementary repositories, in order to ensure the diversity and timeliness of the sources. The time frame comprised the period from 2020 to 2025, as it reflects the interval in which the literature recorded more significant advances related to digital technologies applied to accounting, corporate sustainability, and governance practices. The choice of this period is also justified by the significant increase in studies driven by the digital acceleration resulting from the COVID-19 pandemic, which reshaped organizational and accounting practices. The selection process involved the application of descriptors in Portuguese and English, such as “digital transformation”, “digital accounting”, “auditing and emerging technologies”, “corporate sustainability” and “ESG”, combined by Boolean operators to increase the accuracy of the search. After the initial screening stage, the abstracts and titles were read in order to identify those aligned with the research object. Then, the full texts were evaluated according to criteria of thematic relevance,

methodological rigor and pertinence to the research problem, resulting in a final corpus of articles that served as the basis for the analysis.

For systematization, content analysis was used, organized into thematic categories that emerged from the literature and were compared with the consolidated results. This procedure allowed the triangulation between the theoretical basis and the empirical findings, providing greater interpretative consistency. The option for an integrative review, to the detriment of a more restrictive systematic review, is based on the need to contemplate both the conceptual density and the breadth of perspectives, favoring a critical and multidimensional understanding of the theme in question.

RESULTS AND DISCUSSION

The survey carried out from the integrative review, combined with the analysis of the scientific productions of the research group, made it possible to systematize the findings in four central categories. The first refers to the digital transformation and quality of accounting information, highlighting the impacts of digitalization on information processes. The second deals with emerging technologies and accounting auditing, focusing on blockchain, RPA, and NLP as modernization instruments. The third category involves environmental accounting, ESG, and organizational sustainability, evidencing their relationship with performance and governance. Finally, the fourth category corresponds to accounting transparency and governance, analyzing the relevance of accountability and social control in strengthening contemporary accounting practices.

Category 1 – Digital transformation and quality of accounting information

According to Silva *et al.* (2024), the introduction of automation and artificial intelligence in accounting processes promotes significant gains in the quality of information, reducing operational errors and freeing up professionals for strategic functions. The authors note that digital transformation shifts accounting from a merely operational role to an analytical field, capable of generating relevant support for decision-making. However, they highlight that such benefits still depend on consistent investments in training and infrastructure, without which digitalization can be limited to isolated experiences.

These findings dialogue with Chesbrough (2003), who argues that openness to internal and external knowledge flows enhances the impact of technological innovation, but requires adequate institutional arrangements. The experience reported by Silva *et al.* (2024) confirms this need, since the quality of information is only sustained when accompanied by governance practices that ensure data reliability and interoperability. In a similar vein, West and Bogers (2014) warn that, without robust value capture mechanisms, organizations may not consolidate gains proportional to the digitalization effort, a situation

that is also seen in accounting.

On the other hand, Arundel *et al.* (2019) note that digital innovations in the public sector face similar difficulties, related to the lack of alignment between governance structures and institutional objectives. This criticism helps to understand the limits pointed out by Silva *et al.* (2024), suggesting that the informational quality derived from automation is only consolidated when integrated with clear regulatory frameworks and professional development strategies. In a complementary way, Al-Gsim *et al.* (2021) reinforce that Innovation Centers face cultural and bureaucratic barriers that reduce the absorption of new technologies, pointing to challenges that are also present in the accounting environment.

Thus, the critical analysis of the category shows that digital transformation represents a consistent path to raise the quality of accounting information, but still faces relevant obstacles. The literature converges on the need for articulation between technology, governance, and professional training, in order to ensure that the gains observed in studies such as that of Silva *et al.* (2024) can be expanded and consolidated at scale. Without this, the risk is that digitalization will remain restricted to specific experiences, without producing structural changes in the field of accounting.

Category 2 – Emerging technologies and accounting audit

According to Barros *et al.* (2025), the application of blockchain in accounting processes increases the reliability of information by offering decentralized, transparent, and immutable records. The authors highlight that this technology strengthens corporate governance and reduces the possibility of fraud, making it a highly relevant instrument for auditing. However, they identify obstacles related to the lack of standardization, limited interoperability and regulatory gaps, factors that still restrict its full dissemination in the accounting field. These results converge with Silva *et al.* (2025), who point to process robotization (RPA) and natural language processing (NLP) as technologies capable of optimizing repetitive tasks and expanding the analytical capacity of audits. For the authors, such innovations reduce costs and time, but do not replace the critical judgment of the human auditor, whose ethical dimension remains indispensable. In this way, the digitized audit does not eliminate the role of the professional, but redefines their functions, shifting the focus to activities of greater complexity and added value.

The international literature supports these findings by pointing out that, although disruptive technologies can accelerate processes, their effectiveness depends on solid institutional arrangements. Chesbrough and Bogers (2014) state that open innovation generates value only when accompanied by protection and capture mechanisms, otherwise there is a risk of strategic losses. In a complementary way, Arundel *et al.* (2019) reinforce that governance is a central element to enable

innovations in critical sectors, such as accounting, where information security is essential. Such arguments confirm that blockchain, RPA, and NLP, while promising, require integration into regulatory and educational frameworks that ensure their ethical and effective use.

The critical analysis demonstrates that the digitized accounting audit is moving towards a hybrid scenario, in which emerging technologies complement, but do not replace, human action. The convergence between empirical findings and theoretical literature reveals that efficiency and safety gains are undeniable, but the absence of standardization, cultural resistance, and implementation costs remain central barriers. Thus, the second category indicates that innovation in auditing requires not only technological incorporation, but also institutional and ethical strengthening to ensure the credibility of the process.

Category 3 – Environmental accounting, ESG and organizational sustainability

According to Campana *et al.* (2025), the integration of environmental accounting into business reports favors gains in operational efficiency, increased organizational reputation, and attraction of sustainable investments. The authors argue that the inclusion of ESG indicators increases credibility and transparency, consolidating the role of accounting as an instrument of socio-environmental governance. However, they identify that the full adoption of these practices is still limited by the risk of greenwashing, the high costs of implementation, and the absence of international standardization.

These results dialogue with Viana *et al.* (2025), who point out that environmental governance and ESG reporting are strongly influenced by coercive isomorphism. In countries with solid institutions, they observe real advances in accountability, but in fragile contexts, symbolic adherence prevails, with superficial compliance practices. This analysis reinforces the findings of Campana *et al.* (2025), by indicating that, without regulatory enforcement and institutional capacity, organizational sustainability runs the risk of remaining restricted to discourse.

Sousa *et al.* (2025) expand the reflection by highlighting that the effectiveness of the Sustainable Development Goals depends on intersectoral cooperation and social participation. This perspective confirms that strengthening sustainability requires the articulation of multiple actors and goes beyond the simple adoption of ESG reporting. In a complementary way, Pereira *et al.* (2025) emphasize the importance of education for sustainability and the development of socio-environmental skills, warning that without consistent evaluation instruments and qualified citizen training, the consolidation of these practices is limited.

The critical analysis of this category shows that environmental accounting has the potential to act as a catalyst for sustainable performance, but faces structural and institutional barriers that compromise its effectiveness. Monteiro *et al.* (2025) confirm that

collaborative arrangements and open innovation can accelerate the integration of ESG agendas, but point out that asymmetries of interest and regulatory gaps reduce the scalability of these practices. Therefore, the findings demonstrate that organizational sustainability via accounting is only consolidated when aligned with robust governance mechanisms, professional training, and multisectoral engagement.

Category 4 – Accounting transparency and governance

According to Santiago *et al.* (2024), accounting transparency is an essential element for strengthening social control, especially in public management. The authors highlight that clear and accessible reporting increases accountability and reinforces institutional legitimacy, allowing for greater citizen engagement in policy monitoring. However, they warn that the effectiveness of these practices depends on effective auditing mechanisms and governance structures capable of ensuring the integrity of information.

These findings are supported by Silva *et al.* (2024), who analyze helical models of innovation and argue that governance is only consolidated when adapted to local institutional conditions. In this sense, transparency cannot be reduced to a mere documentary formality, but must be aligned with mechanisms that promote effective participation and co-creativity. In a similar vein, Delmondes *et al.* (2024) reinforce that collaborative practices and regulatory arrangements adjusted to the peripheral reality increase the effectiveness of governance, which suggests that transparency needs to be contextualized to social and institutional specificities.

The international literature also contributes to this discussion by emphasizing that social innovation only generates impact when accompanied by the redistribution of institutional power and the valorization of peripheral epistemologies (Mulgan, 2012; De Sousa Santos, 2007). This critical perspective helps to understand that, even with advances identified by Santiago *et al.* (2024), the achievement of transparency depends on profound cultural changes and the strengthening of institutional capacities. Without this, the risk is that accountability remains limited to normative narratives, without practical effectiveness in monitoring organizations.

The critical analysis of this category shows that accounting transparency is configured as an instrument of legitimization and strengthening of governance, but its effectiveness depends on the articulation between technology, institutions and society. The integration of digital practices and accessible reporting broadens the reach of information, but does not replace the need for independent audit mechanisms and active social participation. Thus, the fourth category confirms that transparency is only consolidated as a governance vector when accompanied by collaborative arrangements, consistent regulation, and civic engagement, indispensable conditions to strengthen the role of accounting in contemporary society.

CONCLUSIONS

The present study aimed to analyze the impacts of digital transformation on accounting and its relationship with the sustainable performance of organizations, through an integrative literature review and the systematization of empirical evidence. It was assumed that digitalization, by incorporating emerging technologies and governance practices, could redefine the accounting function, expanding its strategic relevance for corporate sustainability. The results showed that digital transformation positively impacts the quality of accounting information, strengthens auditing through emerging technologies, expands the integration of ESG indicators, and reinforces transparency as a governance instrument. At the same time, structural barriers have been revealed, such as lack of standardization, high costs, regulatory gaps, and cultural resistance, which limit the full consolidation of these advances. Thus, the initial objective is confirmed, by demonstrating that digital accounting can act as a catalyst for sustainable performance, as long as it is accompanied by institutional arrangements and robust collaborative practices. In summary, the integrative review allows us to conclude that digital transformation in accounting is not reduced to the adoption of technological tools, but requires cultural, regulatory, and organizational changes capable of sustaining its effectiveness. The contributions of the study lie in the reinforcement of the strategic role of accounting for sustainable development, as well as in the proposition of a critical agenda aimed at professional training, regulatory standardization and the strengthening of multisectoral governance. Such elements outline paths for future investigations and practices that seek to align technological innovation and socio-environmental responsibility in the accounting field.

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