

Disruptive Technologies and the Accounting Profession: What Does the Scientific Literature Tell Us?

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<https://doi.org/10.5755/j01.ee.37.3.42817>

This article examines how disruptive digital technologies are reshaping the accounting profession by integrating bibliometric analysis with a critical, theory-informed synthesis. Using a structured review of Web of Science publications, the study maps the intellectual structure and thematic evolution of research on artificial intelligence, big data analytics, blockchain, cloud computing, and robotic process automation in accounting. The findings reveal a shift from infrastructure-oriented digitalization toward analytics-driven and intelligence-based applications, accompanied by growing attention to decision processes, control mechanisms, and organizational adaptation. Rather than producing uniform benefits, technological impacts are economically contingent, depending on complementary investments in human capital, governance structures, and institutional frameworks. The study advances prior literature by explicitly linking accounting digitalization to efficiency, transaction costs, productivity, and resource allocation. By combining bibliometric evidence with analytical interpretation, the article clarifies when and under what conditions digital transformation in accounting generates sustainable economic value for organizations and institutions across contemporary professional contexts.

Keywords: *Accounting Profession; Disruptive Technologies; Digital Transformation; Bibliometric Analysis; Economic Performance; Transaction Costs; Organizational Adaptation.*

Introduction

The rapid diffusion of disruptive digital technologies, including artificial intelligence, big data analytics, cloud computing, and blockchain, has fundamentally changed the information infrastructure of contemporary organizations. Beyond automating routine tasks, these technologies are reshaping how accounting information is generated, interpreted, and mobilized to support managerial judgment, control systems, and governance mechanisms. As previous research demonstrates, digital technologies are increasingly shaping not only accounting techniques but also the nature of accounting work and its organizational role (Moll & Yigitbasioglu, 2019).

A substantial body of literature has examined the implications of digital transformation for accounting and auditing, documenting changes in tools, processes, and professional roles. Existing studies and analyses highlight technological trajectories and adoption patterns that present digital technologies as both a source of efficiency gains and a potential threat to the relevance of the accounting profession (Richins *et al.*, 2017). Although this literature has significantly advanced descriptive knowledge, it remains limited in its ability to explain how and why technological disruption leads to different organizational and economic outcomes in different contexts.

From an analytical perspective, technological change in accounting becomes important not just through adoption, but through its interaction with organizational routines, control structures, and decision-making architectures. Previous research suggests that the formalization and standardization made possible by digital technologies can reshape accounting and auditing practices, with implications for governance

effectiveness, compliance costs, and information comparability (Krahel & Titera, 2015). However, existing reviews rarely integrate these perspectives into a coherent explanation of how digital transformation affects efficiency, information quality, and resource allocation within organizations.

Furthermore, a significant portion of the specialized literature remains fragmented along technological or professional dimensions, typically examining specific tools (e.g., artificial intelligence, big data, blockchain) or focusing in isolation on skills and education. As a result, limited attention is given to understanding why similar technologies produce divergent outcomes or how human capital adaptation and professional reconfiguration mediate their organizational and economic consequences. Empirical evidence indicates that changes in accountants' profiles and competencies are uneven and context-dependent, reflecting broader institutional and organizational conditions rather than deterministic technological effects (Tiron-Tudor & Deliu, 2021).

This fragmentation has practical implications. Decision-makers are facing increasing pressure to invest in digital accounting systems, redesign control processes, and reform professional training, yet the literature offers limited integrative guidance on which combinations of technologies and organizational responses are likely to improve information quality, efficiency, or governance outcomes. Although digital tools have been associated with improvements in analytical capacity and the quality of financial reporting, such benefits appear to be contingent upon complementary organizational capabilities, data governance mechanisms, and professional judgment (Saleh *et al.*, 2023).

In this context, the originality and usefulness of this study lie in its explicit shift from descriptive mapping to explanatory and decision-oriented synthesis. Rather than simply categorizing technologies or research streams, the paper systematically examines how digital technologies, organizational responses, and human capital adaptations interact to shape the economic and managerial consequences in the field of accounting. By integrating bibliometric mapping with qualitative content analysis, the study identifies recurring patterns, conditional relationships, and adaptive mechanisms that help explain under what conditions technological disruption contributes to improved efficiency, information quality, and governance, and when it does not. Thus, the work provides a structured knowledge base that can support managerial decision-making, organizational strategy, and policy considerations related to digital transformation in accounting.

To strengthen the analytical contribution and move beyond descriptive mapping, the study is guided by the following research questions (RQ):

RQ1. What are the major contributions of the literature (authors, journals, countries, institutions, etc.) to research on the impact of disruptive technologies on the accounting profession?

RQ2. What are the trends, temporal developments, and future directions in research on the impact of disruptive technologies on the accounting profession?

RQ3. Why and under what conditions do disruptive digital technologies generate differentiated economic and professional impacts on the accounting profession?

RQ4. How do different categories of disruptive technologies affect efficiency, professional judgment, and control mechanisms in accounting contexts?

RQ5. Under what conditions do digital transformation initiatives in accounting translate into sustainable economic benefits?

The remainder of the article is structured as follows: The next section outlines the theoretical framework upon which the study is based, followed by a description of the research methodology employed. The following sections detail the most important results of the bibliometric analysis and discuss and interpret them in light of organizational and economic implications, highlighting boundary conditions and adaptation strategies. The final section summarizes the main conclusions of the research.

Theoretical Background

The digital transformation of the accounting profession can be understood analytically as a multi-layered process in which technological innovation interacts with organizational structures, institutional arrangements, and human capital configurations.

Previous research highlights that various technologies tend not to function as neutral tools but rather reshape accounting and auditing practices, professional judgment, and control mechanisms (Alles, 2015; Appelbaum *et al.*, 2017; Salijeni *et al.*, 2019).

At a technological level, digital systems expand the scope, speed, and granularity of accounting information, enabling continuous data processing, real-time monitoring, and advanced analytical capabilities. Studies on big data and

analytics in auditing highlight how these technologies are changing evidence collection, risk assessment, and audit planning, thus altering the nature of professional judgment rather than simply automating existing routines (Brown-Liburd *et al.*, 2015; Gepp *et al.*, 2018; Jans *et al.*, 2013). Similarly, research on blockchain highlights its potential to transform verification processes, audit trails, and trust mechanisms, while also raising concerns about interoperability, governance, and control (Desplebin *et al.*, 2021; Liu *et al.*, 2019; Schmitz & Leoni, 2019).

However, technological capabilities alone do not determine outcomes. Organizational and institutional responses play a decisive role in shaping how digital technologies are integrated into accounting systems and practices. Empirical and conceptual studies indicate that digital transformation often requires a substantial reconfiguration of internal processes, control structures, and governance mechanisms, particularly in the context of auditing and assurance (Kotb & Roberts, 2011; Omoteso *et al.*, 2010; Kend & Nguyen, 2020). Research on Robotic Process Automation illustrates that while automation can improve efficiency and consistency, it can also introduce new operational and control risks if governance mechanisms are not sufficiently adapted (Cooper *et al.*, 2022; Eulerich *et al.*, 2024).

Institutional factors continue to condition these dynamics. Differences in regulatory environments, professional standards, and organizational maturity contribute to heterogeneous adoption trajectories and outcomes across different contexts. Research on the public sector and emerging markets indicates that institutional constraints, cultural influences, and regulatory readiness substantially affect the adoption and effective utilization of digital accounting technologies (Al Wael *et al.*, 2024; Huy & Phuc, 2021; Osei-Assibey Bonsu *et al.*, 2023). These findings suggest that digital transformation in accounting is best understood as a process of institutional adjustment, rather than a uniform technological modernization.

Human capital adaptation constitutes a third critical dimension within this framework. An increasing number of specialized works highlight that the economic and organizational benefits of digital technologies depend largely on the skills, competencies, and professional identities of accountants. Research consistently documents growing gaps between technological capabilities and workforce preparedness in accounting, particularly regarding information systems competence, technology-related skills, and data analytic capabilities (Curtis *et al.*, 2009; Jackson *et al.*, 2022; Elo *et al.*, 2023). Studies based on perceptions and survey evidence continue to indicate that the acceptance of digital tools is shaped by factors such as professional experience, organizational support, and perceived value, rather than just technological sophistication (Bakarich & O'Brien, 2021; Fülöp *et al.*, 2024; Mohd Faizal *et al.*, 2022).

It is important to note that the specialized literature also highlights the unintended and potentially adverse consequences of inadequate human capital adaptation. Ethical risks, threats to professional autonomy and identity, and increased concerns about job displacement emerge as recurring themes in studies on artificial intelligence and automation in accounting (Munoko *et al.*, 2020; Rawashdeh, 2025; Tiron-Tudor *et al.*, 2025). These issues

highlight the need to view skills development, education reform, and professional governance not just as support measures but as mediating mechanisms that shape whether technological disruption leads to the creation of sustainable value or organizational fragility.

Therefore, this body of research suggests an integrative theoretical logic in which digital technologies act as catalysts, organizational and institutional arrangements function as conditioning structures, and human capital adaptation operates as a mediating mechanism influencing outcomes. Understanding the interaction between these dimensions is essential for explaining the divergent economic and managerial consequences observed in different organizations and contexts. This integrative framework provides the analytical basis for synthesizing bibliometric models and qualitative themes in the following sections, allowing for a shift from descriptive mapping toward explanatory and decision-relevant perspectives.

Methodology

To address the research objectives and ensure a rigorous and reproducible investigation of the scientific literature on the impact of disruptive technologies in the accounting profession, this study employs a mixed-method research design that integrates bibliometric analysis with qualitative content analysis. This methodological combination enables both a quantitative mapping of the intellectual structure of the field and a qualitative interpretation of its dominant research themes, trajectories, and professional implications (Zupic & Cater, 2015; Donthu *et al.*, 2021; Tiron-Tudor *et al.*, 2022).

Research Design and Data Source Selection

The study follows a three-stage methodological framework comprising research design, data collection and validation, and data analysis. At the design stage, the scope of the research was clearly delimited to scholarly contributions addressing digital technologies, automation, artificial intelligence, big data, blockchain, and related transformations within the accounting and auditing professions.

The Web of Science (WoS) was selected as the sole data source for document retrieval. This decision was made deliberately and is grounded in methodological, rather than convenience-based, considerations. WoS is widely recognized as a reliable data source for systematic and bibliometric studies due to its stringent journal selection criteria, standardized indexing, and strong coverage of high-impact journals, making it particularly suitable for mapping intellectual and, by extension, social structures and citation dynamics (Uyar *et al.*, 2020; Kamble *et al.*, 2018). Prior comparative research also indicates that WoS exhibits higher classification accuracy and greater consistency in journal categorization than alternative databases, such as Scopus, which is critical for delineating coherent subject fields and improving the reliability of bibliometric mapping exercises (Wang & Waltman, 2016).

Moreover, the use of a single, well-curated database enhances the internal consistency and replicability of bibliometric results. Building on comparative work on Web of Science and Scopus, methodological discussions note that, although using multiple databases can expand

coverage, differences in database scope, indexing practices, and data structures may complicate bibliometric network analyses and longitudinal comparisons (Zhu & Liu, 2020). Using a single, well-curated database in bibliometric research does not inherently compromise analytical robustness, particularly when the objective is to elucidate recurring themes, intellectual and social structures, influential actors, and citation patterns within a field. By privileging consistency in coverage, classification, and metadata standards, such an approach can actually reduce methodological noise and enhance the interpretability and comparability of network visualizations and longitudinal knowledge mapping exercises. Given the objectives of this study, the controlled and standardized environment offered by WoS was considered methodologically superior for identifying thematic structures, research fronts, and the conceptual and intellectual evolution of the research. Additionally, this research approach aligns with recommendations made in the specialized literature on bibliometric analysis (Donthu *et al.*, 2021) and converges with similar methodological practices validated by recent studies (Puente *et al.*, 2024; Xiao *et al.*, 2023; Varaniute *et al.*, 2023). This choice involves a compromise between coverage and methodological rigor, which we explicitly acknowledge as a limitation of the study, but at the same time, it can be viewed as a methodological consistency that supports the rigor of the scientific approach and strengthens the validity of the results obtained.

Search Strategy and Query Syntax

Data collection was conducted using the WoS advanced search interface. The final search query was developed through multiple iterative refinements to balance sensitivity and specificity. The search syntax, including all keywords, boolean operators, and field delimiters, is reported in Table 1 to ensure full transparency and reproducibility.

Methodologically, the query was applied to the Topic field (TS), which includes authors' titles, abstracts, and keywords. This combines terms related to digital and emerging technologies (e.g., artificial intelligence, big data, blockchain, automation, digitalization) with terms that accurately describe the meaning of the accounting profession concept. This approach aligns with common practices in recent bibliometric studies that query the Topic field in WoS and combine core domain terms with related concepts to delineate a coherent research space (Brabete *et al.*, 2024; Puente *et al.*, 2024).

Document Types and Corpus Construction

The analyzed corpus was not restricted solely to journal articles. In this regard, several types of documents indexed in WoS were included, such as review articles, conference papers, and early access publications.

We consider this decision to be methodologically justified and in line with the study's objectives. Important research in the field of bibliometrics notes that restricting datasets solely to journal articles may omit influential conceptual and methodological contributions and early indications of emerging topics, frequently reported in reviews or conference proceedings, particularly in fast-moving research areas (Donthu *et al.*, 2021; Zupic & Cater, 2015). The inclusion of multiple document types

allows for a more comprehensive capture of knowledge production, especially in fields characterized by rapid innovation and interdisciplinary convergence, such as the one our study aims to analyze.

From a bibliometric perspective, this inclusive approach enhances the ability to detect early thematic signals, track the diffusion of new concepts, and identify seminal works that shape subsequent journal publications.

Data Validation and Analytical Procedures

To ensure the relevance of the document corpus, a rigorous validation process was initiated. Irrelevant WoS categories were excluded in relation to the research purpose, and the resulting dataset after this first refinement was exported in Excel format for manual verification of titles, abstracts, and keywords. This step ensured a substantial

alignment between the recovered documents and the research objectives. A careful analysis of the titles, abstracts, and keywords allowed us to compile the final database, which we then processed.

Bibliometric analyses were conducted using the Bibliometrix R-package (version 5.0) (Aria & Cuccurullo, 2017) and VOSviewer (version 1.6.20) (Van Eck & Waltman, 2010). The final data were exported from WoS in BibTeX and tab-delimited formats, respectively, in accordance with the software programs used. Quantitative mapping was complemented by qualitative content analysis to support interpretive depth and contextual understanding of the identified bibliometric patterns (Tiron-Tudor *et al.*, 2022).

Table 1

Querying WoS and Establishing the Corpus of Publications

1. WoS query (performed on 09.06.2025)
TS=("accounting profession" OR "accountancy profession" OR accountants OR "accounting industry" OR "accounting field" OR auditors OR "accounting workforce" OR "finance professionals" OR "accounting professionals" OR "professional accountants") AND TS=(risk* OR threat* OR vulnerabilit* OR uncertain* OR challenge* OR danger* OR hazard* OR disruption* OR exposure OR "technological risks" OR "technological impact" OR impact) AND TS=("enterprise resource planning" OR "ERP" OR "technology" OR "automation" OR "artificial intelligence" OR "AI" OR "machine learning" OR "blockchain" OR "digitalization" OR "digitalisation" OR "big data" OR "big data analytics" OR "cloud computing" OR "robotic process automation" OR "RPA" OR "natural language processing" OR "NLP" OR "cognitive computing" OR "predictive analytics" OR "data visualization" OR "cybersecurity" OR "autonomous systems" OR "application programming interfaces" OR APIs) (N=1631)
TS=("accounting profession" OR "accountancy profession" OR accountants OR "accounting industry" OR "accounting field" OR "accounting workforce" OR "accounting professionals" OR "professional accountants") AND TS=("digital transformation" OR "emerging technologies" OR "technological disruption" OR "disruptive technologies") (N=110)
2. Removing duplicates between the two sets of queries (N=1734)
3. Applying data refinement criteria:
- Selected document types: article; proceeding paper; early access; review article; book chapters (N=1720)
- Languages: English (N=1661)
- Exclusion of WoS categories that were not related to the research topic: Veterinary Sciences or Transportation or Sport Sciences or Psychology Social or Primary Health Care or Nutrition Dietetics or Nanoscience Nanotechnology or Metallurgy Metallurgical Engineering or Medical Laboratory Technology or Materials Science Ceramics or Linguistics or Language Linguistics or Industrial Relations Labor or Horticulture or Food Science Technology or Engineering Environmental or Critical Care Medicine or Chemistry Analytical or Urban Studies or Transportation Science Technology or Robotics or Psychology Applied or Microbiology or Medicine General Internal or Mathematics Applied or Mathematical Computational Biology or International Relations or Infectious Diseases or Immunology or Imaging Science Photographic Technology or Engineering Mechanical or Engineering Civil or Engineering Chemical or Education Scientific Disciplines or Construction Building Technology or Communication or Agronomy or Agriculture Multidisciplinary or Agricultural Engineering or Remote Sensing or Public Environmental Occupational Health or Political Science or Instruments Instrumentation or Ergonomics or Engineering Manufacturing or Engineering Aerospace or Engineering Biomedical or Energy Fuels (N=1504)
- Data validation by refining the extracted works based on the relevance of the title, keywords, and abstract to the research objectives (N=580)

Bibliometric Findings

In this section, we present and interpret the bibliometric results derived from the final corpus of publications to identify the main structural characteristics of research addressing the impact of disruptive technologies on the accounting profession.

In Table 2, we summarize the key descriptive characteristics of the analyzed corpus. The time span (1997–June 2025) confirms that, although early contributions exist, research on disruptive technologies in accounting has consolidated relatively recently. Including documents from the first half of 2025 was particularly useful because the Web of Science query was conducted on June 9, 2025, by which time a substantial number of

indexed publications were already available. This approach prevents the artificial exclusion of recent contributions and offers a more accurate representation of current scientific activity. The dataset comprises 580 documents, of which journal articles represent the dominant category, followed by conference proceedings and other document types. This composition reflects both the maturity and the exploratory nature of the field: while journal articles signal theoretical and empirical consolidation, conference papers capture emerging debates and technological novelties. The average number of citations per document indicates that the field has generated substantive academic interest and cumulative knowledge, justifying further analytical investigation.

Table 2

Main Information About the Corpus of Publications

Description	Results	Description	Results
Timespan	1997: June 2025	Keywords Plus	663
Sources	305	Author's Keywords	1592
Documents	580	Authors	1452
Annual Growth Rate %	13,42	Authors of single-authored docs	91
Document Average Age	4,44	Single-authored docs	98
Average citations per doc	15,06	Co-Authors per Doc	2,98
References	24181	International co-authorships %	23,62

Figure 1 illustrates the annual evolution of scientific output. The results show a pronounced acceleration in publication activity starting around 2015–2016, with more than 90 % of the documents published in the last decade. This temporal pattern reflects the diffusion of digital technologies, such as big data analytics, artificial intelligence, and blockchain, into accounting practice and research agendas. The upward trend suggests that digital transformation has moved from a peripheral concern to a central topic shaping the profession’s future, thereby explaining the growing intensity of academic engagement.

This expansion of scientific literature is not just an academic exercise; it responds to the practical needs of the economic environment and the accounting profession, and in our opinion, it can be interpreted from at least three major perspectives.

The first perspective is epistemological in nature and aims to challenge traditional accounting paradigms by replacing the classic model, centered on manual information processing, with a digital model oriented toward predictive analysis and real-time decision-making. This transition has

necessitated the development of research aimed at providing new theoretical foundations and clarifying the applicability of emerging concepts.

Secondly, the professional perspective highlights the process of identity redefinition that the accounting profession is undergoing, characterized by the combination of traditional technical skills with technological and analytical abilities. Specialized literature has documented these transformations, analyzed the associated risks, and formulated normative and educational frameworks aimed at supporting professionals' adaptation to the new requirements of the digitalized environment.

Thirdly, the socio-economic perspective highlights that the widespread adoption of disruptive technologies has consequences not only for the practice of the accounting profession but also for how it creates value at the organizational and societal levels. From this perspective, scientific research has highlighted the implications of digital transformations on financial transparency, corporate governance, and the sustainability of institutional and economic decision-making processes.

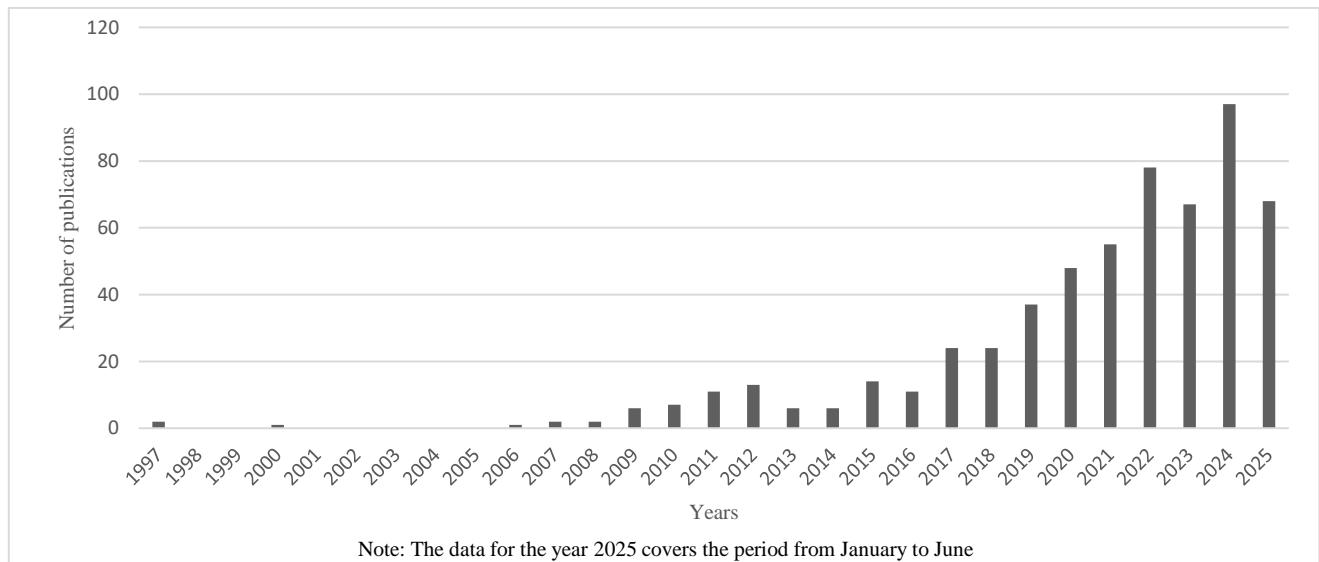


Figure 1. Annual Scientific Production

Table 3 presents the most cited documents based on local and global citation indicators. The prominence of studies focusing on internet-based technologies, big data analytics, blockchain, and their implications for accounting and auditing practices indicates that the literature is strongly oriented toward understanding how technological innovations reshape professional judgment,

roles, and processes. Differences between local and global citation counts highlight that certain works exert a strong influence within this specific research community, even when their broader interdisciplinary visibility is more limited. This distinction is relevant for identifying the intellectual core of the field.

Table 3

Most Cited Documents

Rank	Document	Local citations (LC)	Global citations (GC)	LC/GC ratio (%)	Normalized local citations	Normalized global citations
1	Moll & Yigitbasioglu, 2019	58	256	22,66	10,89	7,40
2	Richins <i>et al.</i> , 2017	56	143	39,16	17,92	3,67
3	Schmitz & Leoni, 2019	47	178	26,40	8,83	5,15
4	Brown-Liburd <i>et al.</i> , 2015	46	186	24,73	5,37	3,95
5	Alles, 2015	40	121	33,06	4,67	2,57
6	Munoko <i>et al.</i> , 2020	39	178	21,91	16,57	7,51
7	Gepp <i>et al.</i> , 2018	35	150	23,33	11,67	6,17
8	Salijeni <i>et al.</i> , 2019	35	104	33,65	6,57	3,01
9	Krahel & Titera, 2015	28	101	27,72	3,27	2,14
10	Kend & Nguyen, 2020	27	75	36,00	11,47	3,17

Presenting the most relevant journals within a bibliometric analysis is essential, as it allows for the identification of scientific channels with the greatest visibility and influence in the field, thus providing a reference framework for validating results, guiding future research, and strengthening academic legitimacy.

Table 4 ranks journals according to their local impact within the analyzed corpus. The results show that journals specializing in accounting information systems and

emerging technologies occupy central positions, even when their total publication volume is relatively modest. This finding suggests that influence in this research area is driven more by thematic relevance and conceptual contribution than by sheer output volume. The ranking also confirms the interdisciplinary positioning of the field at the intersection of accounting, information systems, and technology-oriented management research.

Table 4

Most influential sources

Rank	Source	h_index	g_index	Total citations	Number of publications	Publication year start
1	International Journal of Accounting Information Systems	13	22	791	22	2013
2	Journal of Emerging Technologies in Accounting	11	20	412	23	2011
3	Journal of Information Systems	10	19	656	19	2009
4	Accounting Horizons	9	12	665	12	2008
5	Managerial Auditing Journal	9	13	271	13	2008
6	Accounting Auditing & Accountability Journal	7	10	423	10	2017
7	Journal of Corporate Accounting and Finance	7	9	204	9	2018
8	Journal of Accounting and Organizational Change	6	10	106	12	2009
9	Journal of Financial Reporting and Accounting	6	11	136	12	2022
10	Meditari Accountancy Research	6	7	279	7	2019

The social structure of research is another relevant component of bibliometric analysis because it refers to the network of relationships between the actors involved in scientific production: authors, institutions, and countries. Its analysis reflects how these actors collaborate, form communities, and contribute to the dissemination of knowledge.

Highlighting the authors with the highest impact, measured by the number of citations, along with identifying the most productive ones in terms of the volume of published studies, facilitates the delineation of the field's intellectual core, reveals opinion leaders, and outlines the dominant research directions, providing a valuable benchmark for guiding future scientific investigations and strengthening academic networks.

Table 5 provides a comparative view of author influence, measured through citation-based indicators, and productivity, measured by the number of publications. The results reveal an asymmetry between productivity and impact: some authors achieve strong influence with a limited number of publications, while others contribute more extensively over time. This pattern indicates that early or conceptually strong contributions play a decisive role in shaping research trajectories, while sustained productivity supports the incremental development of the field.

Local citations (LC) reflect recognition within the analyzed corpus, indicating the authors with the greatest influence within the investigated field, whose scientific activity has had a significant impact on the consolidation of the field.

Table 5

Most Relevant Authors

Rank	Author	LC	Author	TC	Author	NP	Author	h-index
1	Moll J.	58	Vasarhelyi M.	468	Huy P.Q.	6	Kotb A.	5
2	Yigitbasioglu O.	58	Appelbaum D.	426	Phuc V.K.	6	Eulerich M.	4
3	Richins G.	56	Kogan A.	397	Deliu D.	5	Tiron-Tudor A.	4
4	Stapleton A.	56	Yigitbasioglu O.	302	Kend M.	5	Appelbaum D.	3
5	Stratopoulos T.C.	56	Moll J.	256	Kotb A.	5	Boulianne E.	3
6	Wong G.	56	Lowe D.J.	230	Tiron-Tudor A.	5	Deliu D.	3
7	Lowe D.J.	50	Grabski S.V.	218	Bahador K.M.K.	4	Hu K.H.	3
8	Leoni G.	47	Leech S.A.	218	Boulianne E.	4	Huy P.Q.	3
9	Schmitz J.	47	Schmidt P.J.	218	Eulerich M.	4	Kend M.	3
10	Brown-Liburd H.	46	Issa H.	212	Fulop M.T.	4	Yigitbasioglu O.	3

They established theoretical and methodological frameworks that have a lasting impact on the specialized literature (e.g., Moll, Yigitbasioglu, Richins, Stapleton, Stratopoulos). Total citations (TC) capture the broad impact, highlighting authors whose contributions transcend thematic boundaries and are heavily cited in international literature (e.g., Vasarhelyi, Appelbaum, Kogan, Yigitbasioglu). On the other hand, analyzing the impact of authors based on the number of publications (NP) highlights their level of scientific productivity and their ability to consistently contribute to the development of the field. A high volume of published works indicates not only sustained research activity but also the potential

to influence future directions of investigation (e.g., Huy, Phuc, Deliu, Kend, Kotb, Tiron-Tudor).

Figure 2 depicts authors' production over time, highlighting distinct publication trajectories. For most highly productive authors, peak research activity occurs after 2021, reflecting intensified scholarly interest following recent technological advances. In contrast, a smaller number of authors show earlier and more continuous engagement with the topic, suggesting their role in laying foundational research directions. The visual representation of publication intensity and citation frequency provides additional insight into the dynamic nature of author contributions.

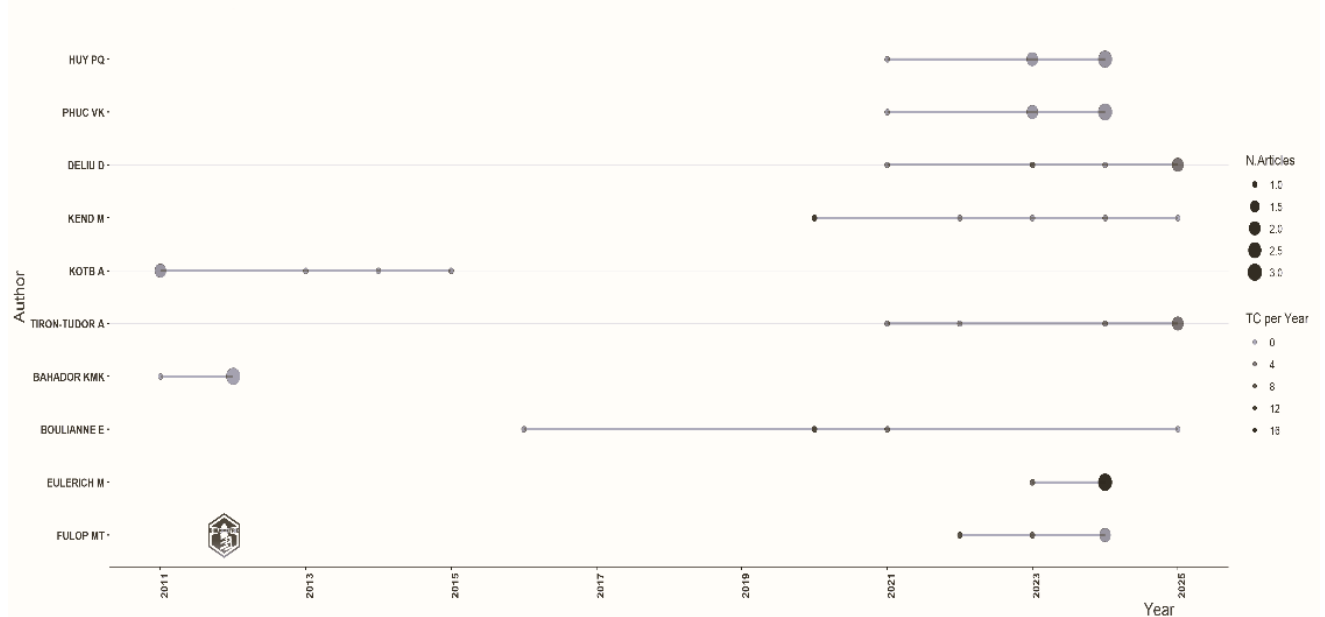


Figure 2. Authors' Production over Time

Table 6 compares contributions to the literature on disruptive technologies in accounting at the country and institutional levels, distinguishing between productivity (frequency of publications) and scholarly influence (total citations). At the country level, the United States clearly occupies a dominant position, ranking first both in terms of publication frequency and total citations. This dual leadership reflects not only the scale of academic output but also the strong international visibility and citation impact of U.S.-based research in this domain.

China and Romania follow in terms of publication frequency, indicating a high level of research activity. However, their citation performance differs markedly. While China ranks fifth in total citations, Romania does not appear among the most cited countries. This divergence suggests that publication volume does not automatically translate into citation influence and highlights differences in the international dissemination and reception of research outputs. In contrast, countries such as the United Kingdom, Australia, and Canada exhibit relatively higher citation

impact compared to their publication frequency, pointing to a stronger integration of their research into the global scholarly conversation.

At the institutional level, the results reveal a heterogeneous distribution of research activity across universities from both developed and emerging research economies. RMIT University (Australia) ranks first in terms of the number of articles, followed closely by Bucharest University of Economic Studies (Romania) and Rutgers State University (USA). The presence of Romanian institutions among the most productive organizations underscores the growing engagement of Eastern European academia in research on digital transformation in accounting. At the same time, the diversity of countries

represented among leading institutions suggests that this research field is not monopolized by a single academic system but rather shaped by geographically dispersed centers of expertise.

Therefore, Table 6 highlights an important structural characteristic of the literature: while scientific leadership remains concentrated in a small number of countries with strong research infrastructures, significant contributions also originate from emerging academic contexts. This uneven distribution reinforces the relevance of examining institutional and national contexts when interpreting research trajectories and suggests that digital transformation in accounting is influenced by both global technological trends and localized institutional dynamics.

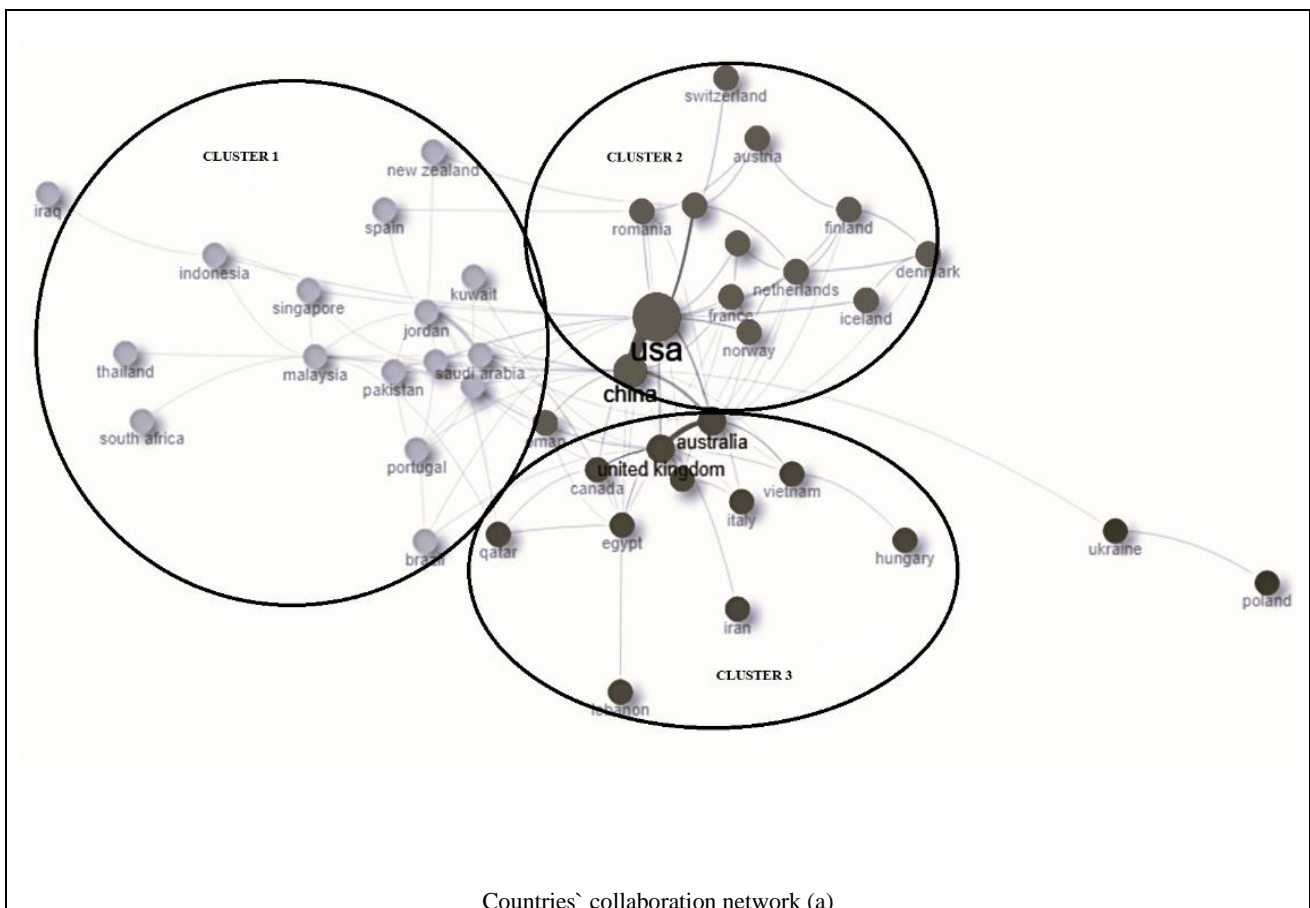
Table 6

Most Relevant Countries and Institutions

Rank	The most influential countries		The most cited countries		The most relevant institutions		
	Country	Frequency	Country	Total citations	Institution	Country	Articles
1	USA	337	USA	3139	RMIT University	Australia	26
2	China	165	United Kingdom	922	Bucharest Univ. Ec. Stud.	Romania	23
3	Romania	131	Australia	685	Rutgers State University	USA	21
4	Australia	103	Canada	359	Babes-Bolyai University	Romania	16
5	United Kingdom	98	China	357	Universiti Teknologi MARA	Malaysia	16

Figure 3 illustrates the structure of international scientific collaboration through country-level co-authorship networks. The presence of three main clusters indicates both regional concentration and cross-regional cooperation. The identified collaboration patterns reveal strong ties between

developed and emerging research economies, suggesting that the challenges posed by disruptive technologies in accounting are globally shared but institutionally differentiated. These networks facilitate knowledge diffusion and methodological diversity across contexts.



Countries' collaboration network (a)

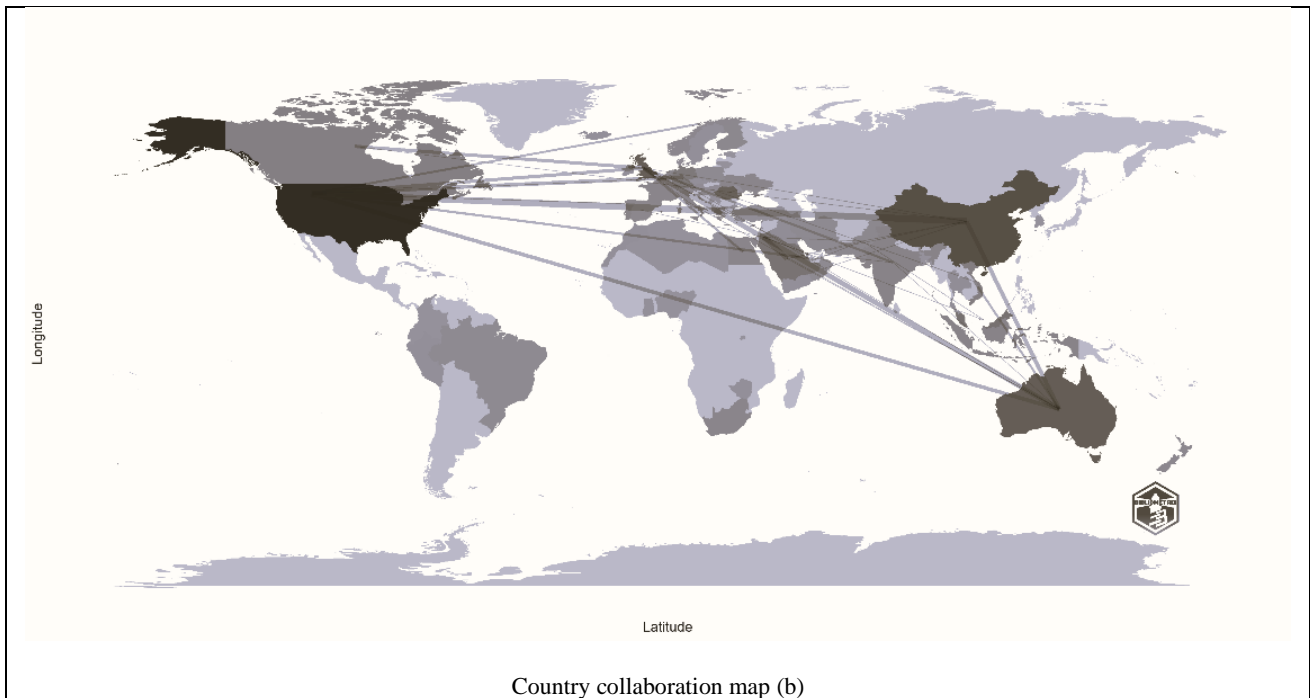


Figure 3. Collaboration Networks Between Countries

Figure 4 focuses on collaboration at the institutional level. The network highlights several central academic institutions that act as hubs for research on digital transformation in accounting. These hubs attract collaborative ties and concentrate scientific output, reflecting both research capacity and strategic investment in this domain. The structure of the network underscores the role of institutional partnerships in consolidating research agendas and sustaining long-term scholarly activity.

Additionally, the collaboration network presented in Figure 4 reflects not only institutional performance but also scientific policy strategies, highlighting the impact of investments in partnerships. A detailed examination of the information allowed for the identification of major academic centers involved in investigating the impact of disruptive technologies on the accounting profession, around which collaborative networks of remarkable scientific value have been consolidated.

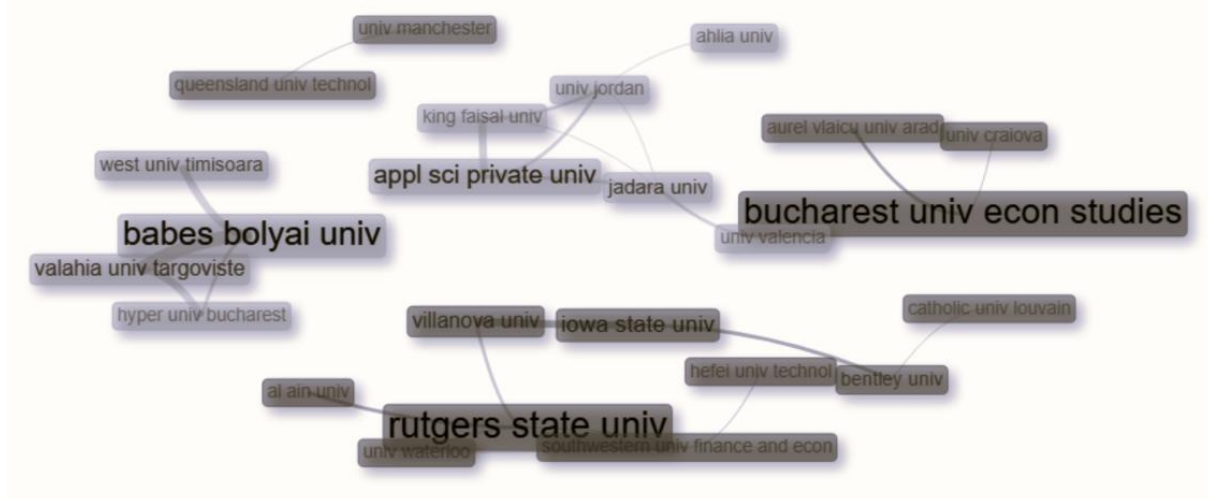


Figure 4. Collaboration Networks Between Institutions

Figure 5 presents the co-authorship network among individual researchers. The importance of analyzing such a network in our research lies in its ability to identify opinion leaders, track the paths of idea diffusion, and evaluate the impact of interdisciplinary collaborations. Unlike conceptual or thematic maps, this figure strictly reflects social collaboration patterns.

The visualization reveals several relatively isolated clusters, confirming the fragmented nature of the research

field. These clusters correspond to specialized subdomains, such as auditing technologies, professional skills, or ethical implications, and indicate limited integration across research streams. This fragmentation explains the coexistence of multiple perspectives and the absence of a unified theoretical framework, reinforcing the need for integrative and synthesis-oriented research efforts.

On the other hand, the consistent presence of the terms "accounting education", "skills", "accounting profession", and "accountants" indicates an alternative perspective, centered on organizational and human capital implications. In this view, the economic benefits of disruptive technologies are conditional on significant investments in skills, the restructuring of professional roles, and the adaptation of organizational structures, generating transition costs and short-term risks of imbalance. The terms "blockchain" and "auditing" suggest another line of debate, where the transparency and automation of verification mechanisms are contrasted with uncertainties regarding standardization, governance, and accountability. Thus, blockchain is simultaneously interpreted as a tool for reducing transaction costs and as a source of new institutional constraints.

We can say that Figure 6 does not reflect homogeneous literature but one characterized by conceptual tensions between the promise of economic efficiency and the complexity of organizational adaptation, supporting the conclusion that the effects of disruptive technologies in accounting are deeply contextual and dependent on structural and institutional conditions. However, WordCloud plays a predominantly exploratory role in the sense that it facilitates the initial outlining of the thematic field, but the conceptual relationships between the identified terms will be analyzed in depth in the next section.

Discussions

Trends, Temporal Developments, and Future Research Directions

The thematic evolution analysis allows for the identification of the internal structure and dynamic aspects of scientific research, as well as the mapping of the multiple dimensions and perspectives that characterize the research topic (Catone, 2023). As can be seen in Figure 7, the

analysis period was divided into three intervals: 1997-2010, which corresponds to the beginning of research in our field of interest; 2011-2016, the period when research on disruptive technologies began to develop; and 2017-2025, the most prolific period for research in this field. The bibliometric evidence synthesized in this study reveals a clearly articulated temporal structuring of research on disruptive technologies in accounting, marked by a progressive shift from infrastructure-oriented digitalization toward analytics-driven and intelligence-based applications. The thematic evolution illustrated in Figure 7 indicates that the earliest research streams were predominantly anchored in accounting information systems, enterprise resource planning solutions, and the integration of internet-related technologies.

During this initial phase, scholarly attention focused primarily on system reliability, data processing accuracy, internal control, and the standardization of accounting routines, reflecting predominant concerns with operational efficiency and procedural control, while only tangentially addressing broader strategic transformation (Brazel & Agolia, 2007; Janvrin *et al.*, 2008; Grabski *et al.*, 2011).

These early contributions conceptualized technology mainly as a supportive infrastructure embedded within existing accounting practices. Economic implications were typically assumed rather than subjected to systematic empirical evaluation, with efficiency gains inferred from automation and improved compliance, but without systematic evaluation of productivity effects, cost structures, or value creation mechanisms. Consequently, this period can be characterized as exploratory, emphasizing feasibility, implementation challenges, and functional integration over broader organizational or economic consequences (Omoteso *et al.*, 2010; Kotb & Roberts, 2011). This orientation is consistent with a technological determinism perspective, in which adoption and diffusion precede explicit reflection on performance outcomes or strategic implications.

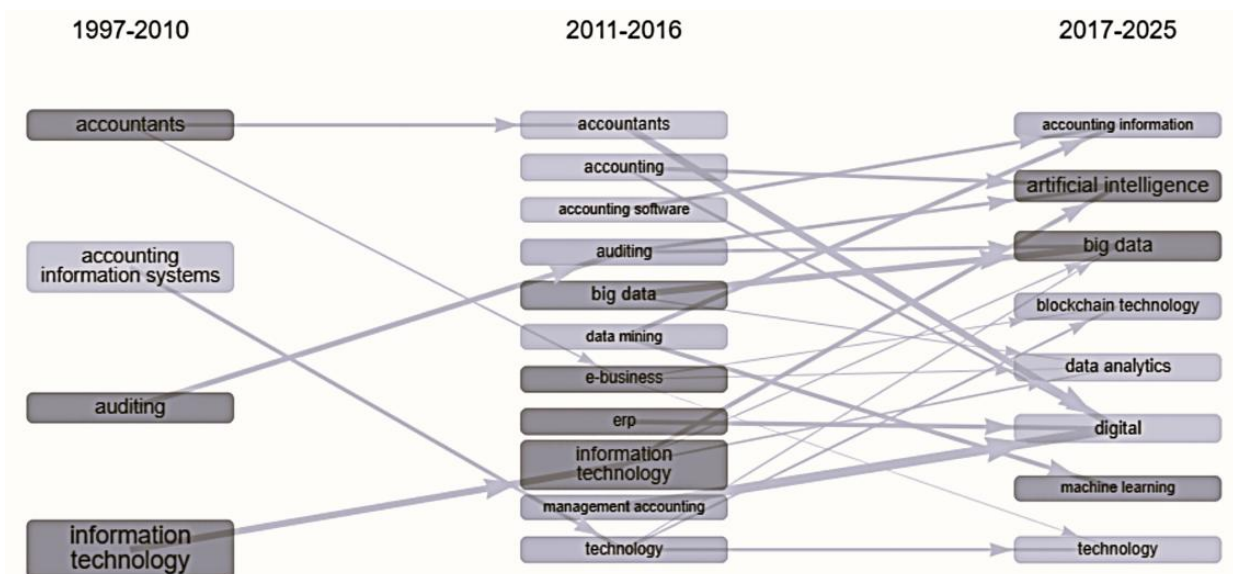


Figure 7. Thematic Evolution

Figure 7 further demonstrates that, over time, research themes evolved toward more advanced digital technologies, particularly big data analytics, continuous auditing techniques, and early forms of artificial intelligence. This second phase represents a conceptual transition in the literature. Studies increasingly examined how analytics-based tools reshape professional judgment, audit planning, and risk assessment processes, thereby influencing how accounting information is generated and interpreted (Brown-Liburud *et al.*, 2015; Krahel & Titera, 2015; Salijeni *et al.*, 2019; Gepp *et al.*, 2018). Unlike earlier work, these contributions explicitly recognized that digital technologies do not merely automate tasks but actively transform cognitive processes, information flows, and decision architectures within accounting organizations.

Despite this maturation, the dominant analytical focus during this phase remained largely concentrated at the level of accounting processes and tasks. While scholars documented improvements in detection capabilities, analytical depth, and information timeliness, relatively few studies investigated how these technological advances translate into measurable economic outcomes such as productivity gains, transaction cost reductions, or improved capital allocation. As a result, the literature often stops short of connecting technological capability to organizational or market-level performance (Richins *et al.*, 2017; Kend & Nguyen, 2020). This gap suggests that, although the field has become increasingly sophisticated from a technical standpoint, it has not fully integrated economic reasoning into analyses of digital transformation.

In the most recent temporal interval depicted in Figure 7, the thematic evolution is characterized by the consolidation of advanced digital technologies, with artificial intelligence, big data analytics, blockchain-related applications, and continuous auditing emerging as dominant and interconnected research streams. Rather than introducing entirely new conceptual domains, this stage

reflects the deepening and recombination of existing technological themes, accompanied by increased attention to implementation complexity, organizational readiness, and governance challenges (Han *et al.*, 2023; Akter *et al.*, 2024; Kokina *et al.*, 2025). Importantly, the figure does not indicate the emergence of distinct keyword clusters explicitly related to ethics, sustainability, or institutional change. Instead, the literature continues to be structured primarily around technological capabilities and their functional implications for accounting work.

The thematic map presented in Figure 8 provides complementary insights into the structural composition and maturity of the research field. Core themes, characterized by both high centrality and strong internal development, are dominated by artificial intelligence applications, big data analytics, and digital auditing technologies (Appelbaum *et al.*, 2017; Gepp *et al.*, 2018; Han *et al.*, 2023). These themes function as conceptual hubs within the literature, shaping research agendas and anchoring related discussions. Their prominence confirms that the technological dimension of accounting transformation is well established, empirically grounded, and methodologically diverse.

In contrast, Figure 8 also reveals the presence of several motor and niche themes associated with specific applications, such as continuous auditing, robotic process automation, and blockchain-enabled assurance. These themes exhibit varying degrees of development and centrality, suggesting uneven diffusion and adoption across accounting domains across service lines, firm sizes, and national contexts (Bakarich & O'Brien, 2021; Cooper *et al.*, 2022; Desplebin *et al.*, 2021). The absence of strongly developed themes explicitly focused on human capital, education, or institutional reform indicates that, while such topics are discussed in the broader literature, they are not yet structurally integrated into the core conceptual architecture of the mapped research.

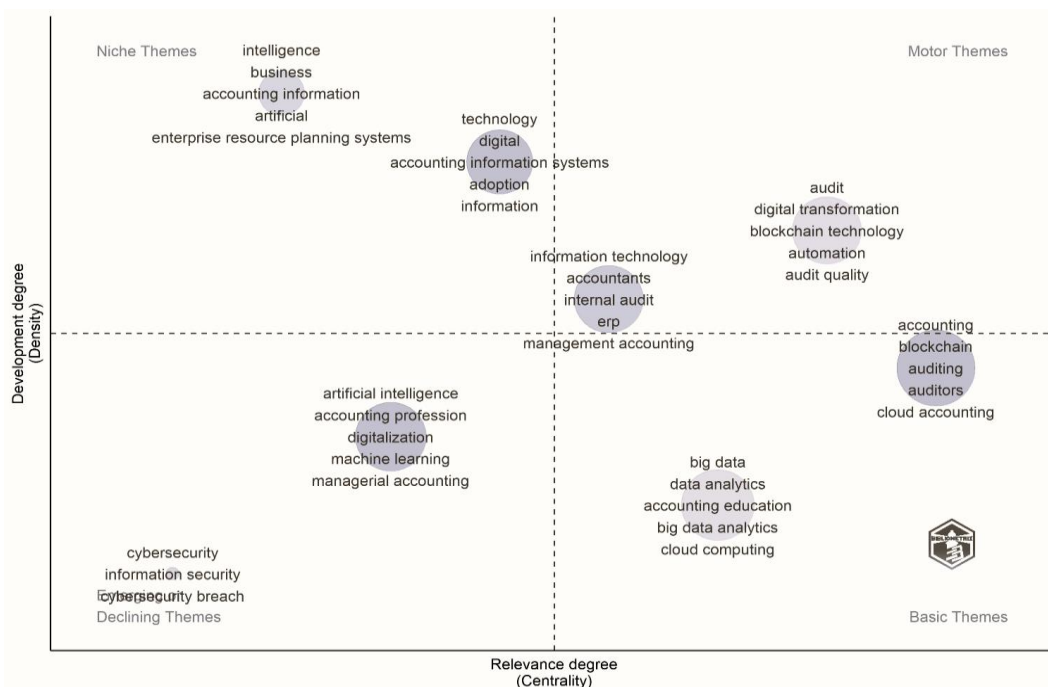


Figure 8. Thematic Map

This configuration has important implications for future research. First, the temporal and thematic patterns identified in Figures 7 and 8 indicate a need to move beyond technology-centric analyses toward integrative frameworks that explicitly link digital adoption to economic performance. Building on recent evidence that fintech and big data analytics can enhance accounting practices and reporting quality, future studies should examine under what organizational, regulatory, and market conditions these technologies generate efficiency gains, reduce coordination and transaction costs, or improve decision quality, thereby clarifying the economic mechanisms through which digital transformation affects firms and markets (Osei-Assibey Bonsu *et al.*, 2023; Saleh *et al.*, 2023).

Second, the literature would benefit from greater attention to boundary conditions and heterogeneity. Comparative research examining differences across firm size, industry, regulatory environments, and levels of digital maturity could help explain why similar technologies yield divergent outcomes in practice. This line of inquiry is particularly relevant given evidence that implementation costs, skill constraints, and governance challenges vary substantially across contexts (Grosu *et al.*, 2023; Huy & Phuc, 2024).

Third, future research should prioritize longitudinal designs capable of capturing dynamic effects over time. Most current studies draw on cross-sectional survey data or conceptual analyses, which constrain inferences about causal links between technological investments and economic performance. Future longitudinal research could track how perceived benefits and risks of AI evolve across adoption stages, from initial implementation through organizational routinization (Rawashdeh, 2025; Pérez-Calderón *et al.*, 2025).

Last but not least, integrating bibliometric evidence with established theoretical lenses, such as technology adoption models, socio-technical systems theory, and human capital theory, would strengthen analytical depth. By embedding empirical patterns within coherent theoretical frameworks, future research can advance from descriptive mapping toward explanatory and decision-oriented insights, thereby enhancing the contribution of accounting research to broader economic and managerial debates. Collectively, these directions highlight the need for grounded, context-sensitive research that advances understanding of digital transformation in accounting beyond description toward explanation, evaluation, and informed economic decision-making across market contexts and institutions.

Disruptive Technologies and Their Impact on the Accounting Profession

The disruptive technologies map presented in Figure 9 illustrates a set of technologies that are reshaping accounting practices, professional roles, and organizational structures through distinct mechanisms of influence rather than through a uniform process of innovation. These technologies differ not only in their technical characteristics but also in the types of economic effects they generate, the organizational adjustments they require, and the institutional constraints that shape their adoption. Consequently, understanding their

impact requires a differentiated and critical analysis that goes beyond efficiency-oriented narratives and addresses competing perspectives and empirical tensions within the literature.

Artificial intelligence emerges as the most central and interconnected technological cluster in Figure 9, reflecting its influence across auditing, financial reporting, and management accounting. Existing research highlights that AI-enabled and analytics-based tools are expected to enhance pattern recognition, anomaly detection, and predictive analytics in auditing, thereby enabling auditors to process large and complex datasets with greater speed and analytical depth (Appelbaum *et al.*, 2017; Kokina *et al.*, 2025; Lombardi *et al.*, 2025). These capabilities support improvements in audit planning, risk assessment, and forecasting and are frequently associated with expectations of higher efficiency and more informed decision-making.

From an economic perspective, AI and data-driven audit systems are frequently discussed as factors enabling more efficient and timely assurance, with the potential to reduce costs and enhance productivity, particularly through continuous and automated audit models that replace periodic manual testing with continuous, real-time procedures (Gepp *et al.*, 2018; Jans *et al.*, 2013). However, this optimistic view is increasingly questioned. Empirical studies highlight that algorithmic opacity, data bias, and challenges related to accountability and explainability introduce new forms of risk that complicate the realization of efficiency gains (Munoko *et al.*, 2020; Fülöp *et al.*, 2023). Rather than eliminating judgment, AI frequently shifts it toward model validation, exception handling, and governance oversight, thereby reconfiguring, rather than reducing, professional effort.

This tension reveals a broader theoretical divide in the literature. While technology-centric perspectives implicitly assume a substitution logic between human labor and intelligent systems, socio-technical approaches emphasize complementarity and contingency. Recent evidence suggests that AI-related technologies yield very different outcomes across settings, depending on the availability of complementary assets such as digital skills, robust governance of automation projects, and organizational redesign of roles and processes (Brands *et al.*, 2024; Eulerich *et al.*, 2024). Without these conditions, AI adoption may generate coordination costs and decision bottlenecks that offset anticipated productivity gains, challenging deterministic assumptions about its economic benefits.

Big data and big data analytics constitute a second major cluster in Figure 9, closely related to AI yet distinct in their primary mechanism of influence. The literature consistently shows that analytics technologies expand the informational scope of accounting by integrating structured and unstructured data from multiple sources, enhancing timeliness, granularity, and contextual richness (Gepp *et al.*, 2018; Nielsen, 2022; Huy & Phuc, 2023). In auditing, these capabilities support continuous monitoring, refined risk profiling, and more sophisticated fraud detection techniques (Jans *et al.*, 2013; Salijeni *et al.*, 2019).

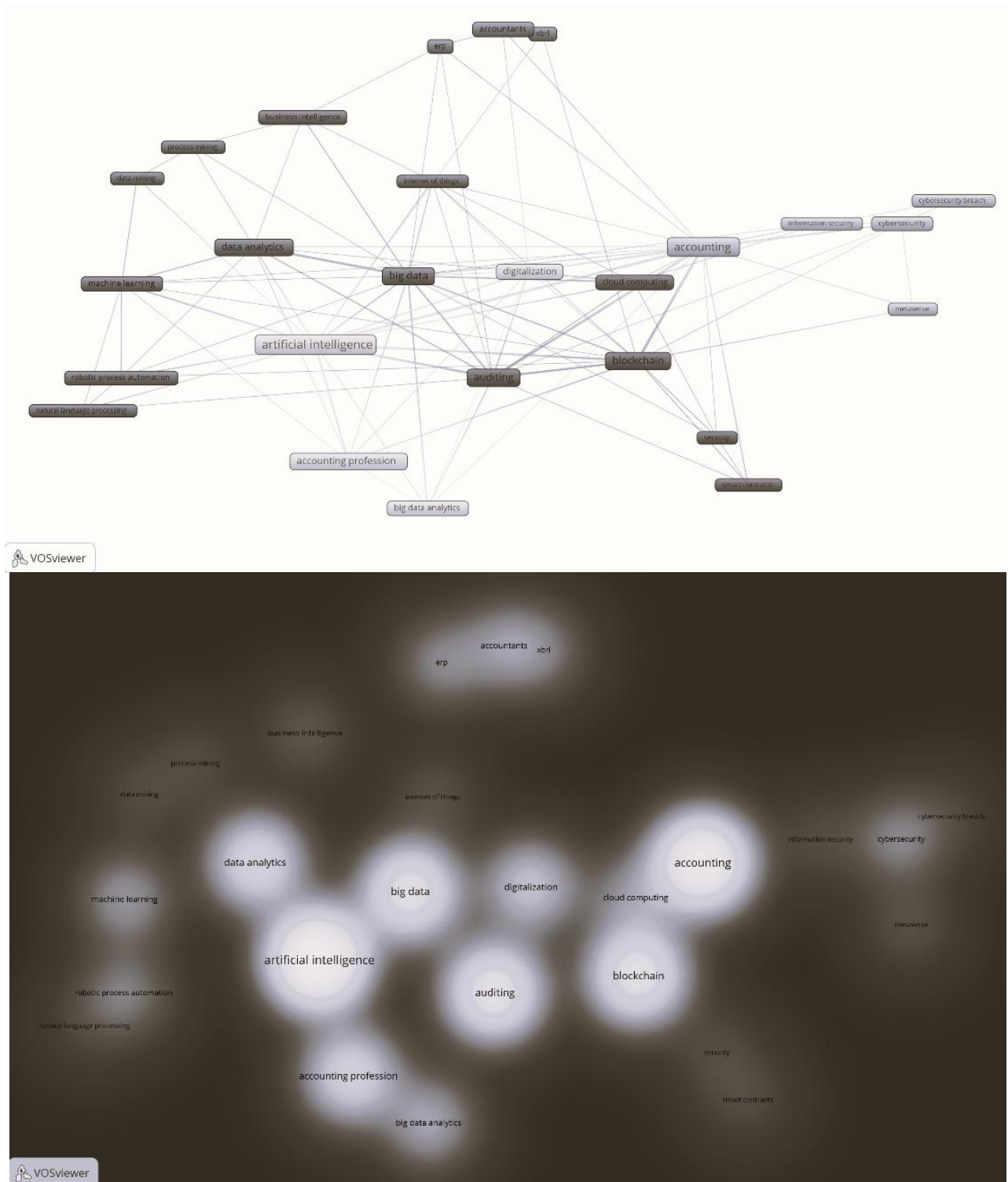


Figure 9. Disruptive Technologies Map

Proponents argue that such enhancements can improve resource allocation and performance evaluation by mitigating information asymmetries and reinforcing internal control and monitoring mechanisms (Saleh *et al.*, 2023; Osei-Assibey Bonsu *et al.*, 2023). However, empirical evidence suggests that the benefits of analytics-related investments are highly dependent on data quality, analytical skills, and the degree to which new tools are integrated into existing processes and standards (Kend & Nguyen, 2020; Grosu *et al.*, 2023). In many cases, high implementation

costs, fragmented data infrastructures, and skill shortages limit the effective use of analytics, particularly in smaller organizations and emerging economies.

These mixed insights highlight that big data analytics should not be treated as a purely efficiency-enhancing tool but as a strategic, capability-dependent investment whose benefits are shaped by organizational context and human expertise. For example, in the public sector, redesigning accounting information systems and aligning them with accountants' skills can create coordination challenges and

short-term adjustment costs, reinforcing the view that analytics adoption must be assessed through a dynamic, rather than static, economic lens (Huy & Phuc, 2024).

Blockchain occupies a more peripheral yet conceptually significant position in Figure 9. Unlike AI and analytics, which augment existing processes, blockchain introduces fundamentally different architectures for recording, verifying, and securing transactions. Conceptual studies emphasize its potential to enhance transparency, immutability, and real-time verification, thereby reducing reconciliation efforts and reliance on traditional intermediaries (Schmitz & Leoni, 2019; Desplebin *et al.*, 2021).

In theory, these features could substantially lower transaction and verification costs and reshape assurance models by embedding control mechanisms directly into accounting infrastructures (Fuller & Markelevich, 2020; Han *et al.*, 2023). However, existing empirical and review evidence points to limited real-world adoption and modest organizational impact to date. Scalability constraints, interoperability issues, regulatory uncertainty, and high implementation costs mean that blockchain initiatives in accounting typically remain confined to pilots and experimental projects rather than systemic transformation (Akter *et al.*, 2024; Kolisnyk *et al.*, 2023).

This divergence highlights a pronounced gap between innovation-driven expectations and institutionally constrained realities. The economic implications of blockchain appear to depend less on technological maturity and more on regulatory alignment, standard-setting, and ecosystem coordination, reinforcing the central role of institutional conditions in shaping technological outcomes.

Cloud computing and digital platforms. Cloud computing functions as an enabling infrastructure for many accounting technologies and therefore represents a distinct cluster in Figure 9. Cloud-based systems offer scalability, flexibility, and cost-sharing advantages by reducing upfront investment requirements and facilitating access to advanced functionalities (Gonçalves *et al.*, 2022; Mohd Faizal *et al.*, 2022). These characteristics are particularly relevant for small and medium-sized enterprises.

While cloud solutions are often associated with operational efficiency and dynamic resource allocation, the literature also identifies new trade-offs. Data security concerns, vendor dependence, and cross-jurisdictional compliance challenges introduce additional governance and monitoring costs that may potentially offset initial savings (Rîndașu, 2017; Fuller & Markelevich, 2020). These findings underscore that efficiency gains are conditional and must be evaluated alongside control and risk considerations.

Robotic process automation (RPA) is primarily associated with the automation of repetitive accounting tasks such as transaction processing and reconciliations. Empirical evidence indicates that RPA can significantly reduce processing time and error rates, generating short-term productivity improvements (Bakarich & O'Brien, 2021; Cooper *et al.*, 2022). However, critical perspectives caution against over-automation, noting risks related to reduced process transparency, skill erosion, and increased system fragility (Eulerich *et al.*, 2024).

From an economic standpoint, these findings suggest that RPA's benefits are neither automatic nor permanent.

Without holistic process redesign and reskilling strategies, initial efficiency gains may be eroded over time, reinforcing the need to situate RPA within broader transformation initiatives rather than treating it as a purely technical solution.

From what has been presented above, a consistent pattern emerges: disruptive technologies do not generate uniform economic outcomes. Instead, their impact is mediated by organizational capabilities, institutional frameworks, and human capital configurations. The literature reveals persistent tensions between efficiency-oriented narratives and empirically grounded analyses that emphasize contingency, trade-offs, and uneven value realization. This synthesis advances understanding by reframing accounting transformation as a process of socio-technical and economic reconfiguration rather than one of linear technological substitution.

Response Measures and Strategies to Mitigate the Impact of Disruptive Technologies

The literature indicates that responses to disruptive technologies in accounting are inherently multi-level and interdependent, encompassing individual competencies, organizational configurations, and institutional arrangements. These response measures do not merely moderate the impact of technological change but actively shape its economic and professional consequences. Importantly, prior research reveals significant variation in the effectiveness of such strategies, reflecting tensions between efficiency-oriented adaptation and the costs, constraints, and unintended effects associated with transformation processes.

At the individual level, continuous skill development is widely framed as the primary mechanism through which accounting professionals adapt to digital disruption. Empirical studies consistently document rising demand for competencies in data analytics, digital literacy, systems thinking, and interdisciplinary problem-solving (Curtis *et al.*, 2009; Elo *et al.*, 2023; Brands *et al.*, 2024). From a human capital perspective, these skills are expected to enhance employability, professional resilience, and value creation within organizations. However, the literature also highlights important asymmetries in how such skills are developed and utilized: differences in organizational resources, training opportunities, and role design mean that investments in advanced digital skills may not always be fully leveraged in practice (Jackson *et al.*, 2022; Nusa *et al.*, 2024).

This divergence reveals a critical tension between individual-level upskilling narratives and organizational absorption capacity. Even though professionals can learn advanced analytical skills, research shows that these skills are only useful if there are also changes in how jobs are designed, who makes decisions, and how performance is evaluated. In the absence of such alignment, skill development may generate underutilization or role ambiguity rather than economic returns, challenging simplistic assumptions about education as a universal mitigation strategy.

At the organizational level, the literature increasingly emphasizes integrated transformation strategies that

combine technology adoption with process redesign, governance reform, and cultural change. Empirical work on AI-related RPA and analytics in accounting suggests that efficiency and quality improvements tend to materialize only when automation projects are supported by appropriate governance, adapted control frameworks, and leadership capable of managing the risks and complexity of these technologies (Cooper *et al.*, 2022; Eulerich *et al.*, 2024). From this perspective, response strategies function as organizational complements that condition the economic impact of technology rather than as isolated interventions.

Nevertheless, empirical findings also reveal trade-offs. Comprehensive transformation initiatives often involve high upfront costs, transitional inefficiencies, and coordination challenges. Process redesign and governance restructuring may temporarily disrupt operations and increase uncertainty, particularly in organizations with limited change management capabilities. Consequently, some studies highlight that the benefits of digital investments are often uneven or slow to materialize, particularly in smaller firms or resource-constrained environments, where skills, governance, and organizational readiness lag behind technological ambitions (Kend & Nguyen, 2020; Grosu *et al.*, 2023). These findings underscore that organizational response measures can simultaneously mitigate and amplify technological disruption, depending on timing, scale, and execution.

Institutional responses constitute a third critical dimension shaping adaptation pathways. Professional bodies, regulators, and educational institutions play a central role in legitimizing technologies, setting standards, and defining acceptable practices. The profession-focused literature highlights ongoing initiatives to revisit ethical frameworks, professional standards, and education in light of digitalization, explicitly positioning accountants as guardians of innovation, trust, and accountability in technology-rich environments (ACCA, 2013; ACCA, 2023). Such interventions are often portrayed as stabilizing forces that reduce uncertainty and facilitate coordinated adoption.

However, institutional adaptation to AI also generates new economic and distributional pressures. Efforts to comply with evolving regulatory expectations and to engage in continuous upskilling and reskilling create additional burdens that tend to weigh more heavily on smaller organizations and professionals in emerging markets (Rawashdeh, 2025; Pérez-Calderón *et al.*, 2025). Moreover, regulatory responses frequently lag behind technological change, creating periods of ambiguity that constrain investment decisions and experimentation. This temporal misalignment highlights a tension between flexibility and control, suggesting that institutional strategies may both enable and constrain transformation.

So, the literature suggests that effective mitigation of disruptive technologies in accounting depends on the alignment between individual capabilities, organizational design, and institutional support mechanisms. Response measures operate as mediating structures through which technological potential is translated into economic outcomes. Where such alignment is absent, technologies may exacerbate inequality, inefficiency, or risk rather than delivering anticipated benefits. By integrating insights across levels of analysis, this study advances understanding

of response strategies as dynamic and context-dependent processes that shape the trajectory and consequences of digital transformation in the accounting profession.

Conclusions

This study set out to advance understanding of how disruptive digital technologies reshape the accounting profession by moving beyond descriptive mappings of technological adoption toward an analytically grounded assessment of their economic and organizational consequences. By integrating bibliometric analysis with critical synthesis informed by established theoretical perspectives, the article demonstrates that digital transformation in accounting represents a form of innovation-driven structural change whose outcomes are contingent rather than uniform.

From a theoretical standpoint, the study contributes by reframing technological disruption in accounting as a socio-technical and economically conditioned process rather than a linear trajectory of automation. The analysis shows that technologies such as artificial intelligence, big data analytics, blockchain, cloud computing, and robotic process automation do not generate intrinsic value in isolation. Instead, their effects are mediated by complementary organizational capabilities, institutional arrangements, and human capital configurations. This insight advances existing technology adoption and accounting transformation literature by emphasizing conditional causality: similar technologies produce heterogeneous outcomes depending on governance structures, skill endowments, and regulatory environments. By synthesizing fragmented research streams, the article clarifies that professional change, control reconfiguration, and decision transformation are not secondary consequences but central mechanisms through which economic effects materialize.

The study also makes a clear economic contribution by linking digital transformation in accounting to core economic variables, including efficiency, transition costs, productivity, and resource allocation. The findings suggest that while many technologies promise automation-driven efficiency gains, these benefits are neither immediate nor guaranteed. Initial productivity improvements are frequently accompanied by transitional costs related to process redesign, training, coordination, and risk management. Over time, sustainable economic value emerges only when digital tools are embedded within coherent control frameworks and aligned with organizational objectives. This perspective challenges overly optimistic narratives that equate technological adoption with automatic cost reduction and highlights the importance of evaluating digital investments through a longer-term economic lens that accounts for adjustment costs and uncertainty.

At the same time, the article underscores that disruptive technologies can enhance decision quality by expanding the informational basis available to accountants and auditors. Advanced analytics and AI applications improve pattern recognition, risk assessment, and forecasting capabilities, thereby reducing information asymmetry and supporting more informed managerial and assurance decisions. However, these gains are conditional on data quality,

transparency, and professional judgment. When algorithmic outputs are poorly understood or weakly governed, new forms of opacity and dependency may emerge, potentially offsetting efficiency gains. By documenting these trade-offs, the study contributes to a more balanced economic understanding of digitalization in accounting.

Methodologically, the article advances the literature by demonstrating the value of combining bibliometric techniques with theoretically informed interpretation. The bibliometric analysis provides a systematic and transparent mapping of the intellectual structure, thematic evolution, and technological focus of the field. Yet, rather than treating these results as an end in themselves, the study integrates them with critical discussion to explain why certain themes dominate, how research priorities have shifted over time, and where analytical gaps persist. This integrated approach addresses limitations of prior review studies that remain largely descriptive and illustrates how bibliometric evidence can be leveraged to support theory building and economic reasoning.

The methodological choices made in this study also carry implications for robustness and generalizability. By analyzing a heterogeneous corpus of document types, the research captures a broader spectrum of scholarly discourse, including emerging ideas that may not yet be consolidated in journal articles alone. While this approach entails trade-offs, it allows for a more comprehensive assessment of how disruptive technologies are conceptualized and debated across academic communities. The transparency of the analytical procedures enhances replicability and provides a foundation for future comparative studies.

Several implications for future research emerge from these conclusions. First, there is a need for more empirically grounded studies that explicitly connect accounting technologies to measurable economic outcomes, such as cost structures, productivity indicators, and investment performance. Longitudinal designs and comparative analyses across organizational and institutional contexts would be particularly valuable in clarifying causal relationships. Second, future research should further integrate human capital and institutional perspectives into economic analyses of digital transformation, examining how education systems, professional bodies, and regulatory frameworks shape returns on technological investment.

Acknowledgements

This work was carried out within and with the support of the Center for Interdisciplinary Research in Economic and Social Sciences, INCESA (Research Hub for Applied Sciences), University of Craiova.

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Third, greater attention should be paid to boundary conditions and unintended consequences, including new risks, inequalities, and coordination challenges introduced by advanced technologies.

For practitioners, the findings highlight that successful digital transformation in accounting requires more than technology acquisition. Managers and professional leaders should approach digitalization as a strategic investment that necessitates parallel development of skills, governance mechanisms, and organizational processes. Decisions regarding technology adoption should be informed by realistic assessments of costs, complementarities, and time horizons, rather than by expectations of immediate efficiency gains. Emphasizing learning, transparency, and adaptability can help organizations translate technological potential into sustained economic value.

Policy implications also follow from this research. Regulators and professional bodies play a critical role in shaping the conditions under which digital technologies generate trust and economic benefits. Updating standards, ethical guidelines, and educational curricula is essential, but such interventions should be sensitive to their economic impact, particularly for smaller firms and emerging markets. Policies that support skill development, interoperability, and data governance can reduce adjustment costs and foster more inclusive digital transformation across the accounting profession.

Therefore, this article demonstrates that disruptive technologies are reshaping accounting through complex and conditional mechanisms that intertwine technology, organization, and economics. By moving beyond descriptive analysis and offering an integrated analytical perspective, the study contributes to a deeper understanding of when, how, and why digital transformation in accounting produces sustainable economic and professional outcomes. This perspective provides a more solid foundation for future research, informed practice, and evidence-based policy making in an increasingly digital economic environment. Ultimately, recognizing digital accounting transformation as an economic coordination challenge rather than a purely technological upgrade enables more realistic expectations, sharper analytical models, and better-informed decisions by researchers, organizations, and policymakers operating under conditions of rapid technological change.

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The article has been reviewed.
Received in September 2025; accepted in June 2026.



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