Bibliometric Analysis and Research Trends on Creative Accounting from 2000 to 2023

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ABSTRACT
This study employs a comprehensive bibliometric analysis to explore the extensive landscape of creative accounting research from 1958 to 2024. By analyzing thematic clusters, research trends over specific years, potential research topics in less explored areas, and patterns of author collaboration, the study provides a multidimensional view of the field’s evolution and current state. Thematic analysis reveals core areas such as policy, earnings management, and the role of external audits, illustrating their interconnectedness within the research community. Temporal trend analysis identifies shifts from regulatory and ethical discussions to more complex issues like technology’s impact on creative accounting practices. Emerging research topics suggest future areas of study, including the influence of cultural perceptions and technological advancements on creative accounting. Furthermore, the author collaboration network highlights influential researchers and suggests robust collaborative ties within the community, offering insights into the social structure of academic collaboration. This study maps the development of creative accounting research, providing a foundation for future academic inquiry and practical application in the field.

Keywords:
Creative Accounting
Bibliometric Analysis
Earnings Management
Audit
VOSviewer

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1. INTRODUCTION
Creative accounting practices, involving the manipulation of financial records towards specific ends, have long been a focal point of academic scrutiny [1]–[5]. Over the years, these practices have not only affected the transparency and reliability of financial statements but have also significantly influenced stakeholder decisions and market integrity. The period from 2000 to 2023 has witnessed diverse global financial reforms and regulatory changes aimed at curtailing such practices, each influencing the evolution and techniques of creative accounting. Bibliometric analysis offers a systematic method to trace the development of research themes, key contributions, and academic discourse surrounding creative accounting through quantitative evaluation of literature over these years.

The academic interest in creative accounting has been catalyzed by high-profile corporate scandals that highlighted the potential for accounting maneuvers to camouflage underlying economic conditions. As a result, an extensive body of literature has
emerged, focusing on the mechanisms of creative accounting, its implications, and the detection and prevention strategies employed by entities [4], [6]. This proliferation of research has not only enriched understanding but has also diversified the perspectives from which creative accounting is studied, encompassing ethical, regulatory, and economic viewpoints. Bibliometric analysis enables the aggregation and assessment of this vast range of literature, providing a macroscopic view of the research landscape.

The period covered in this study is particularly significant due to the transition towards more stringent regulatory frameworks globally, such as the Sarbanes-Oxley Act in the United States and similar regulations in other countries [1], [7]. These frameworks have reshaped the boundaries within which financial reporting occurs, thereby influencing the nature and frequency of creative accounting practices [2], [8]. Analyzing research trends during this period using bibliometric methods will reveal how the academic community has responded to these shifts, the evolution of research focus areas, and the impact of regulatory changes on scholarly discourse.

Despite the growing body of literature on creative accounting, there remains a fragmented understanding of the evolution and current state of research within this field. This study aims to address several key issues: how research themes have developed and shifted over time, the influence of regulatory changes on academic discourse, and the identification of the most impactful studies and authors in the domain. A bibliometric analysis spanning over two decades will help in mapping these dynamics, offering insights into the trajectory of research and its responsiveness to practical and regulatory demands.

2. LITERATURE REVIEW

2.1 Defining Creative Accounting

Creative accounting encompasses a variety of practices where accounting treatments are crafted more by desire to influence readers than by the strict rules of accounting. According to [9], it typically involves bending the rules of standard accounting practices without direct violation of the rules, to portray a desired financial image of the company. This can include manipulative actions such as altering revenue recognition timing or restructuring liabilities. Scholars like [9] argue that while these practices may remain within legal bounds, they often breach ethical lines, potentially misleading stakeholders about an organization’s true financial status.

2.2 Impact and Implications of Creative Accounting

The implications of creative accounting are profound and multifaceted, impacting stakeholders such as investors, regulators, and employees. Research by [10] demonstrates that creative accounting can lead to significant distortions in financial statements, which in turn can mislead investors and skew economic decisions. Additionally, [11] discuss the broader economic implications, suggesting that pervasive creative accounting practices can undermine the credibility of financial markets and lead to broader economic instability. This body of work highlights the necessity for stringent regulatory measures and robust detection mechanisms.

2.3 Regulatory Responses to Creative Accounting

In response to the financial scandals in the early 2000s, such as Enron and WorldCom, which were largely fueled by creative accounting practices, regulatory
bodies worldwide have intensified their scrutiny and strengthened regulations. One of the most significant regulatory changes was the introduction of the Sarbanes-Oxley Act in the United States in 2002. Researchers like [12] have extensively analyzed the impact of this Act on corporate transparency. Similarly, the International Financial Reporting Standards (IFRS) have been continuously evolving to close loopholes that permit financial manipulation. Studies by authors like [13] evaluate the effectiveness of these standards in curbing creative accounting.

2.4 Bibliometric Analyses on Creative Accounting

Bibliometric analysis provides a quantitative approach to the scholarly literature, offering insights into the patterns of publication, authorship, and citation. For instance, [14] performed a bibliometric study on accounting literature, revealing predominant themes and influential authors and papers in the field of creative accounting. These analyses help identify the core areas of focus within the field, the evolution of research over time, and gaps in the literature that may require further exploration.

2.5 Trends and Shifts in Creative Accounting Research

The landscape of creative accounting research has evolved significantly over the past two decades. Initially focused primarily on identification and description of practices, recent research has shifted towards understanding the consequences of such practices and developing mechanisms for their detection and prevention. A study by [15] highlights a growing trend in exploring the psychological and organizational factors that encourage such practices, suggesting a multidisciplinary approach to addressing issues of creative accounting.

3. METHODS

This study employs a bibliometric analysis to investigate the scope and trends of research on creative accounting from 2000 to 2023. The data for this analysis were extracted from Google Scholar, ensuring comprehensive coverage of the literature. Relevant articles were identified using specific keywords such as "creative accounting," "accounting practices," and "financial reporting manipulation." The selection criteria included peer-reviewed journal articles and conference proceedings written in English. For the analysis, the study utilized VOSviewer to visualize data and identify key patterns in the literature. These tools facilitated the examination of publication frequencies, citation analysis, co-authorship networks, and the evolution of research themes over the designated period.

4. RESULTS AND DISCUSSION

<table>
<thead>
<tr>
<th>Table 1. Metrics Data of Literature</th>
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<tr>
<td>Publication years:</td>
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<td>Papers:</td>
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<td>Author/paper:</td>
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<td>h-index:</td>
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<tr>
<td>g-index:</td>
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<tr>
<td>hI,norm:</td>
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<tr>
<td>hI,annual</td>
</tr>
<tr>
<td>hA-index</td>
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<tr>
<td>Papers with ACC &gt;= 1,2,5,10,20:</td>
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</table>

Source: Output of Publish or Perish, 2024
Table 1 presents a comprehensive bibliometric analysis of literature on a specific topic from 1958 to 2024, revealing significant academic engagement over 66 years. The dataset comprises 980 papers, which have collectively garnered 18,498 citations, indicating an average citation rate of approximately 280.27 per year and 18.88 per paper. This suggests a robust impact and relevance within the academic community. The average number of citations per author is notably high at 10,912.91, reflecting substantial contributions or fewer authors with very influential works. The average papers per author stood at 646.28, while the average authors per paper was 1.93, indicating a trend towards multi-authorship in the field. The h-index of 55 and g-index of 126 highlight a significant number of highly cited papers, underscoring the depth of influential research in this domain. The hI,norm and hI,annual values at 43 and 0.65, respectively, further emphasize sustained impact over time. The hA-index at 17, alongside distribution metrics showing the number of papers with citations at various thresholds (301 with at least 1 citation, down to 13 with at least 20 citations), demonstrates both the breadth and depth of the field’s influence and scholarly interest.

Table 2. Top Cited Literature

<table>
<thead>
<tr>
<th>Citation</th>
<th>Author and Year</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1112</td>
<td>[17]</td>
<td>The financial numbers game: detecting creative accounting practices</td>
</tr>
<tr>
<td>741</td>
<td>[18]</td>
<td>The association of operating cash flow and accruals with security returns</td>
</tr>
<tr>
<td>704</td>
<td>[19]</td>
<td>Creative accounting, fraud and international accounting scandals</td>
</tr>
<tr>
<td>471</td>
<td>[21]</td>
<td>Personality, hypomania, intelligence and creativity</td>
</tr>
<tr>
<td>457</td>
<td>[22]</td>
<td>Creative Accounting: How to make your profits what you want them to be</td>
</tr>
<tr>
<td>410</td>
<td>[23]</td>
<td>What do deficits tell us about debt? Empirical evidence on creative accounting with fiscal rules in the EU</td>
</tr>
</tbody>
</table>

Source: Output of Publish or Perish, 2024

Table 2 lists the top-cited literature within the realm of creative accounting, showcasing a range of topics from practical analyses to theoretical discussions that have shaped academic and professional understanding of the field. The most cited work, by Brandt, Van Biesebroeck, and Zhang, explores firm-level productivity in Chinese manufacturing, highlighting its critical reception with 2,720 citations, indicating its significant influence on discussions around economic practices in China. Following this, Mulford and Comiskey’s book on detecting creative accounting practices has garnered 1,112 citations, reflecting its importance as a practical resource for understanding and identifying financial manipulations. Other notable works include Rayburn’s study on cash flows and accruals, Jones’s examination of fraud and scandals, and Milesi-Ferretti’s assessment of fiscal rules, each contributing to diverse discussions on the ethical, practical, and regulatory aspects of creative accounting. The range of citations from 2720 to 305 illustrates the broad impact and varying degrees of influence these publications have had within academic circles and beyond, offering insights into the pervasive interest and ongoing relevance of studying creative accounting practices.
4.1 Keyword Co-Occurrence

The first visualization from VOSviewer above effectively maps out the conceptual structure and thematic interconnections within the field of creative accounting. This network diagram highlights the primary themes, sub-themes, and their relationships based on bibliometric data, providing a detailed graphical representation of the research landscape. At the heart of the visualization, “creative accounting” is prominently displayed, serving as the focal node around which all other themes revolve. This central positioning underscores the pervasive influence of creative accounting within the dataset, suggesting that it is a primary subject of interest and analysis across the literature.

Connected directly to the central theme are several critical nodes, each representing a major aspect or consequence of creative accounting:

1. Policy, this theme suggests a significant focus on the regulatory and policy frameworks surrounding creative accounting. The proximity to the central node indicates frequent discussion in the literature on how policies can either contain or inadvertently encourage creative accounting practices.

2. Earnings management, often discussed alongside creative accounting, this node refers to the manipulation of financial reports to meet certain targets or expectations. It is a specific form of creative accounting that directly impacts profit reporting and financial transparency.

3. Accounting Standards and Rules, this cluster highlights the role of accounting standards and flexibility in accounting rules as both enablers and constraints for creative accounting practices. The discussion around these topics likely involves analyses of existing regulatory gaps and recommendations for more robust standards.

Branching out from these central themes are several secondary nodes, each indicating specialized areas of interest within the broader field:

1. Government and corporate governance, these nodes suggest a focus on the impact of creative accounting at both the governmental level and within corporate governance structures. These discussions may explore how...
governance practices can mitigate or exacerbate the risks associated with creative accounting.

2. External audit, positioned on the periphery, this theme points to the crucial role of audits in detecting and preventing creative accounting. It likely covers methodologies, effectiveness, and challenges faced by auditors in the context of creative accounting.

3. Risk, credibility, and reliability, these interlinked themes reflect concerns over the risks associated with creative accounting and its impact on the credibility and reliability of financial reporting. This cluster may include studies on the perceptual impact of creative accounting on stakeholder trust and investment decisions.

The node labeled “ethic” indicates a significant strand of literature dedicated to the ethical implications of creative accounting. This includes discussions on moral considerations, the ethical duties of accountants, and the broader ethical impact on society and economic stability. Several nodes also suggest interdisciplinary intersections and emerging themes, such as the influence of creative accounting on cash flow management and its detection through technological advancements (implied by the proximity of terms related to accounting innovations). The use of colors and varying node sizes within the network diagram likely represents different metrics such as the number of citations, the impact of particular themes, or the volume of literature associated with each node. The connecting lines, varying in thickness, illustrate the strength and frequency of thematic correlations and co-occurrences in the literature, providing insights into how tightly integrated these themes are within the field.

The bibliometric network map indicates the evolution of key themes in creative accounting research from 2012 through 2020, each color representing a different phase of research emphasis. Creative accounting remains the most significant node, marked by its size and central position, indicating it as the core topic of research. The prominence of this node suggests a sustained academic focus on creative accounting practices, their methodologies, and their implications across various sectors.

1. Darker Green Colors (2012)

In 2012, the research heavily concentrated on policy and regulatory measures. This focus likely stems from the aftermath of the global financial crisis, where tightening financial regulations and
enhancing transparency were pivotal. Early in the decade, there was a significant discussion around ethics in accounting and the role of stringent accounting standards to prevent creative practices that might lead to financial distortions.


By 2014, the attention appears to shift towards the importance of external audits in detecting and preventing creative accounting practices, suggesting a response to the earlier focus on regulation and ethics. This period still shows a strong interest in earnings management, reflecting ongoing concerns about how profits are reported and manipulated within legal boundaries.

3. Lighter Green (2016)

Mid-decade research began to integrate more discussions on corporate governance, indicating a broader approach to managing creative accounting risks by involving various stakeholders in the governance process. The connection between accounting practices and broader financial implications, like cash flow and credibility, started to gain more academic traction.


As technology becomes more integral to financial processes, the research starts to explore how it can be both a tool and a challenge in managing creative accounting and fraud. There’s a revival in interest regarding the ethical perceptions of creative accounting, possibly driven by newsworthy scandals or publicized financial misconducts.

5. Yellow (2020)

By 2020, the lightest shade on the map, the themes of risk, credibility, and reliability become more pronounced. This indicates a culmination of the decade’s earlier discussions, focusing now on the outcomes of previous regulatory and ethical considerations. Corporate governance remains a crucial theme, now discussed in the context of evolved standards and practices that incorporate the decade’s advancements and lessons.

From 2012 to 2020, the focus in creative accounting research shifted from foundational issues of policy and ethics to more complex discussions involving technology, risk management, and the perceptual impacts of accounting practices. Each phase reflects a natural progression in addressing the challenges posed by creative accounting, responding to technological advancements, and adapting to new global standards and expectations. The gradual color transition from darker to lighter shades visually underscores the shift in academic focus and priorities over the years, highlighting the dynamic nature of research in the field of creative accounting.

![Figure 3. Density Visualization](source: Data Analysis by VOSviewer, 2024)
This figure offers a compelling and detailed bibliometric mapping of the field of creative accounting. The use of a color gradient from blue to green to yellow illustrates the density and centrality of topics within the research landscape. This approach helps identify not only the primary and secondary themes within creative accounting but also their interrelationships and relative significance based on academic focus.

At the core of the visualization, Creative Accounting appears as the most prominent node, indicated by its size and vibrant yellow color. This central positioning and color intensity suggest that it is the primary focus within the research field, serving as a hub that connects to various related concepts. The brightness of the node likely signifies a high density of citations or references, underscoring its pivotal role in the research area.

The less bright areas in the visualization signify emerging or less frequently discussed themes within the field of creative accounting. These areas often represent potential research gaps that can be explored further. Focusing on these could provide new insights and contribute to the broader understanding of creative accounting. Some potential research topics indicated by the less bright areas in the network map can be identified as follow:

<table>
<thead>
<tr>
<th>No</th>
<th>Research Suggestion</th>
<th>Research Focus</th>
<th>Potential Impact</th>
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<tbody>
<tr>
<td>1</td>
<td>Creative Accountant’s Role in Financial Practices</td>
<td>Investigate the specific roles and responsibilities of accountants in the perpetration or prevention of creative accounting practices. This could include examining the ethical dilemmas faced by professionals and their decision-making processes.</td>
<td>Understanding the human element in accounting practices can lead to more effective ethical training and regulatory frameworks.</td>
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<tr>
<td>2</td>
<td>Government’s Role in Regulating Creative Accounting</td>
<td>Explore the effectiveness of current governmental regulations and policies in different countries in curbing creative accounting. Comparative studies could identify best practices and regulatory gaps.</td>
<td>This research could influence policy adjustments and contribute to the development of more robust governmental controls over financial reporting and accounting practices.</td>
</tr>
<tr>
<td>3</td>
<td>Perception of Creative Accounting in Different Cultures</td>
<td>Analyze how creative accounting is perceived in various cultural contexts, particularly in less studied regions or industries. This could help understand the social and cultural factors that influence the acceptance or rejection of such practices.</td>
<td>Insights from this research could guide multinational corporations in standardizing their accounting practices and ethics training across diverse geographical locations.</td>
</tr>
<tr>
<td>4</td>
<td>External Audit’s Efficacy in Detecting Creative Accounting</td>
<td>Investigate the current methods used in external audits to detect signs of creative accounting and their effectiveness. This</td>
<td>Enhancing the tools and techniques available to auditors could significantly reduce the prevalence of</td>
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<tr>
<td></td>
<td>5</td>
<td>Technological Advancements and Their Role in Preventing Creative Accounting</td>
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<td></td>
<td>This could lead to the development of new technology-based standards or tools for the accounting industry, promoting greater integrity in financial reporting.</td>
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<td>6</td>
<td>Ethical Training and Its Impact on Creative Accounting</td>
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<td></td>
<td>This could help educational institutions and professional bodies enhance their training programs, potentially reducing the inclination towards creative accounting.</td>
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<td></td>
<td>7</td>
<td>Risk Management in the Context of Creative Accounting</td>
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<td></td>
<td>Better risk management strategies could help companies avoid the pitfalls of creative accounting, leading to more sustainable business practices.</td>
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<th>4.2 Co-Authorship Analysis</th>
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Source: Own Interpretation, 2024
Figure 4. Authorship Collaboration
Source: Data Analysis by VOSviewer, 2024

The last figure above represents a co-authorship network among researchers, depicted using VOSviewer. This map is an effective tool for understanding the collaborative relationships and clustering of authors within a specific academic field. In this network, each node represents an author, and the lines connecting them indicate co-authorship on one or more publications. The colors of the nodes and lines may signify different clusters or groups of authors who frequently collaborate, highlighting distinct sub-communities within the broader research community.

In the visualization, there are two primary clusters shown in different colors, red and blue, which suggests two separate groups of researchers who have their internal collaborations. The red cluster includes authors like Vladu AB, Balaciu D, and Bogdan V, indicating a tightly-knit group where Vladu AB appears to be a central figure, possibly signifying a leading or highly influential researcher within this group. This cluster’s connectivity implies robust collaborative ties, likely indicating a focused area of study or a specific research project that has bonded these authors together. The blue cluster, featuring Hussin N, Abed IA, and Ali MA, represents another cohesive group of researchers. This cluster shows similar characteristics of close collaboration, with Hussin N appearing as a central node, which may point to his role as a principal investigator or a key contributor in their research endeavors. The presence of multiple connections between these individuals suggests a strong, ongoing partnership likely aimed at advancing a particular aspect of their field.

The existence of these clusters and their internal structures can provide valuable insights into the dynamics of research collaboration, indicating which authors are central to their networks and potentially influential in their areas of study. Furthermore, the separation between the clusters might reveal differences in research focus or geographic location, suggesting areas for potential cross-collaboration or indicating gaps in the integration of knowledge across subfields. Analyzing such networks helps in understanding the social structure of academic collaboration and can guide new researchers in identifying key figures and groups within their areas of interest.

5. CONCLUSION

The series of bibliometric analyses performed across different dimensions of creative accounting research have provided multifaceted insights into the field. Firstly, the thematic cluster analysis highlighted how central themes like policy, earnings management, and external audits interconnect within a rich landscape of research, underscoring the depth and complexity of creative accounting studies. From the research trends observed over significant years, we noted a dynamic evolution from foundational regulatory and ethical discussions to more nuanced topics like technology’s role in auditing and corporate governance. This trajectory suggests a field that is responsive to both technological advancements and changing global standards. Additionally, the identification of potential research topics, particularly in less explored areas such as the role of cultural perceptions and technological impacts on creative accounting, indicates a fertile ground for future studies that can enrich the discourse. Finally, the author collaboration network analysis sheds light on the collaborative nature of this academic community, revealing key nodes and clusters that drive research forward and indicating opportunities for new researchers to engage with established groups. Together, these analyses not only map the current state of creative accounting research but also chart a course for its future development, highlighting areas ripe for investigation and the critical networks that will likely shape its progress.
REFERENCES

[22] M. Griffiths, “Creative Accounting: How to make your profits what you want them to be,” (No Title), 1986.