

BIBLIOMETRIC STUDY ON THE IMPORTANCE OF USING CREATIVE ACCOUNTING IN FINANCIAL REPORTING

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Abstract

The current research aimed to analyze scientific production, using bibliometric analysis as a research method, with the aim of understanding the current structure of studies and future research directions related to creative accounting, how to use creative accounting practices and the role or in financial reporting. 13,463 documents published between 1999-2023 were identified in the Web of Science database and 24,461 researches in the Scopus database, which were refined according to 2 more terms: "user perception" and "impact on financial results". 80 articles were retained for the last stage of research, whose scientific content was analyzed with the help of VOSviewer software, performing both descriptive analysis and performance analysis, as well as scientific mapping from the perspective of the conceptual, intellectual and social structure. In order to determine research gaps, the 10 most relevant and influential papers were analyzed, these being established in relation to the number of citations, which was between 32 and 168. The research results highlighted the fact that half of the analyzed articles are reviews of specialized literature, which highlights gaps in primary research on creative accounting. What is worth noting is the fact that case studies or empirical studies based on questionnaires or the analysis of data sets related to financial reporting, address both aspects related to large companies listed on the stock exchange, as well as those related to medium and small companies. The studies followed the techniques of creative accounting and the way of financial reporting, both for private and state companies, both companies that benefited from external and internal financing, demonstrating the complex interest in the issue of using creative accounting. The gaps identified in this study will constitute future research directions in the field.

Key words: creative accounting, financial engineering, accounting reporting, ethics

INTRODUCTION

In an era in which information circulate very fast and they are time subject to the phenomenon of globalization, which makes the competition to become stringer and stronger, and decision-making is essential as a result of the complexity of economic phenomena, it is important that information to be of high quality and permanently aligned to legislative changes. At the same time, the correct use of accounting information allows decisions to be made that lead to a decrease in the fiscal pressure to which economic entities are subjected, with a direct impact on the results obtained. In this context, creative accounting is the one that correlates an important amount of data with the aim of optimizing financial reports and results [14].

The tendency to apply some creative accounting means has existed since the appearance of economic phenomena, but the awareness of the use of such methods or the recognition of such phenomena appeared much later. In 1993, Naser K. states that since 1920 there has been a tendency to manipulate accounts [17]. The first work identified in the Web of Science database regarding the use of the term creativity and accounts appeared in 1976 and belongs to Scandura J.M., a mathematician who explains the way in which mathematics can be used creatively to optimize some results [19]. In 1953, however, Hepworth, even if he did not clearly define creativity, found that in business management there has always been a tendency related to the possibility of manipulating the value of

taxes and fees, this being started from the need to increase the confidence of shareholders regarding the performance of management and the increase of own incomes [10].

In 1968, Copeland considered that the repetitive use of some rules, both accounting measurement and financial reporting, which results in the reporting of revenues, which, although they have a small variation, can constitute financial engineering techniques or in other words creative accounting [8].

In 1978, however, Kamin and Ronen noted that there is a difference in motivation in the application of these tools, which is given by the profile of a company. Thus, in the case of owner-managed companies, as opposed to those controlled by employee management, it is found that there is much less interest in the use of financial engineering techniques [11].

In the last period, however, the concept of creative accounting is more and more often brought into discussion, being identified with the process of manipulating accounting information by professionals in the field, both accountants and managers with the aim of increasing earnings [3, 9, 21].

Some authors consider that the application of creative accounting can affect the business in the long term, being only a form of manipulation used at a given time [15]. The negative impact is due to other authors, the fact that it is based on the exploitation of legislative deficiencies or normative ambiguities, which are not always considered honest [20, 23].

Raileanu et al. al. considers that the early identification of creative accounting techniques could have contributed to avoiding the major financial scandals that have affected the world in recent decades, proposing to limit their use [18].

On the other hand, most authors recognize the fact that creativity does not always have a negative connotation, that the use of means and procedures to minimize or maximize results has always existed, but the reason is different, depending on the users (investors, creditors, state, etc) [24], and that these decisions appeared due to the accelerated

development of markets and the proliferation of financial products.

Recently, however, the research on creative accounting has intensified and although there is still no consensus on the definition of the concept, there are various approaches. That is why, in this article, we propose to analyze both the procedures, policies and techniques identified by various authors regarding creative accounting, as well as the purpose pursued and its effects on companies and on the entire economy.

From the analysis of the specialized literature, it emerged that creative accounting has always been used, although the term under which it appears differs from one country to another: Fabricated numbers or earnings management in America, Accounting for profits or Window-dressing in England, Balance sheet manipulation or heisse Luft in Switzerland, Winstegalisatie, Creatieve jaarverslaggeving or Windstflattering in the Netherlands, Fabricated accounts or Bricolage in France, Manipulative accounting or Feral accounting in Australia, Furyo Kessan, Funshoku or Mae-da-oshi in Japan [1].

In this context, the goal of this study was to analyze scientific literature in the field, using bibliometric method, tfor a better understanding of the current structure of studies and future research directions related to creative accounting, how to use creative accounting practices and the role or in financial reporting

MATERIALS AND METHODS

The choice of bibliometric analysis as a research tool was determined by the fact that it is a research method that involves the inventory of the activity of publishing scientific articles at the global level, being used in the comparative analysis of productivity in the scientific field [13]. It also evaluates the performance of the research centers, which is a complement to the standard evaluation procedures, representing reference points for the concerns in the field, considering the fact that longitudinal studies of scientific interests contribute to the

determination of research areas, which they can evolve or regress.

The current research followed the analysis of the relevance that the concept of creative accounting has within the specialized literature. To identify the most relevant scientific articles, the Web of Science and Scopus databases were used, some of the most popular platforms in the scientific world, which contain relevant publications, being used at an international level and within which articles published yet can be found from the beginning of the 19th century until now.

At the same time, the purpose of the research was to provide a critical picture regarding previous studies and to identify the main challenges and opportunities related to the use of creative accounting in financial reporting. Achieving these objectives was based on the following research questions (RQ):

RQ1: What are the research groups on the topic of using creative accounting techniques?

RQ2: What does the distribution of scientific research production look like regarding creative accounting?

RQ3: What are the main research gaps in creative accounting and future research avenues in this field?

Therefore, the bibliometric analysis was the quantitative research model that could answer these questions.

The date on which the two databases were consulted was November 29, 2023. To carry out the bibliometric analysis, we started from a first keyword "financial engineering", being

identified a number of 23,543 articles and works within the Scopus database. The same search was performed in the WOS database. Further, the research was refined by using an alternative word, much more current for the current period, "creative accounting" with a number of 13,463 researches identified in the WOS database and a number of 24,461 researches in the Scopus database. The refinement was achieved by using 2 other terms, namely: "user perception", obtaining 7,989 articles from the WOS database and 885 articles from the Scopus database, respectively "impact on financial results", thus reaching a number of 80 representative articles in the Scopus database, articles that have been analyzed in the present article, with the help of the VOSviewer software. In the interpretation of the data, the size of the nodes in the generated network indicates its relevance in the research, and the thickness of the curves, but also the distance between the nodes represents the connection between the analyzed elements.

RESULTS AND DISCUSSIONS

As can be seen from Figure 1, starting with the year 1954, the subject of creative accounting techniques and how they influence the results of a company, begins to attract the attention of researchers, the number of articles published on this topic increasing from 27 in 1970 to 1,322 in 2021. In 2023, the number of articles published until November 29, 2023 was 1,098.

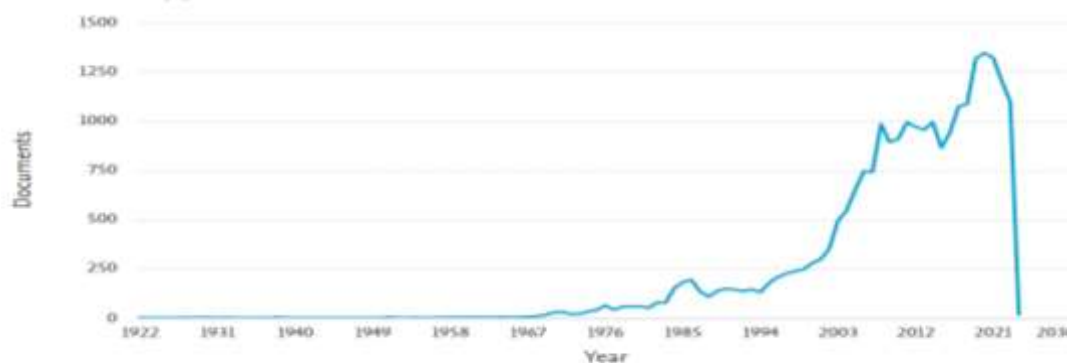


Fig. 1. Evolution of the number of articles published in the field of creative accounting
Source: WOS [28].

From the analysis of the relationship established between the first 100 co-authors of the articles with creative accounting as their theme and who published a minimum number of 5 articles on this theme, it emerged

that they are grouped in 7 clusters, among which a number was established total 673 links. The highest number of links established with other authors belongs to Wang I. with a number of 37 links.

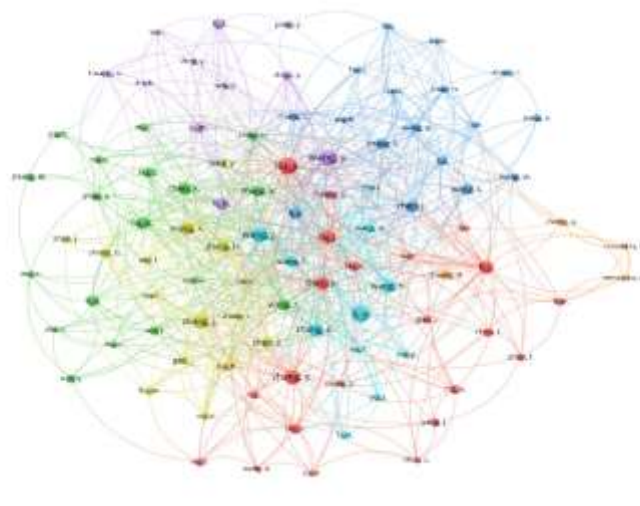


Fig. 2. Distribution of scientific research according to co-authors
Source: VOSviewer own processing.

Analyzing the links established between the first 30 key terms used in the 80 analyzed articles, and starting from a minimum number of 5 key words used simultaneously within an article, it was found that the most important terms were: risk perception (with a number of 48 occurrences and with 212 established connections); risk assessment (with a number

of 27 occurrences and 159 established links); risk management (with a number of 18 occurrences and 106 established links); risk analysis (with a number of 14 occurrences and 88 established links); value engineering (with a number of 16 occurrences and 87 established links).

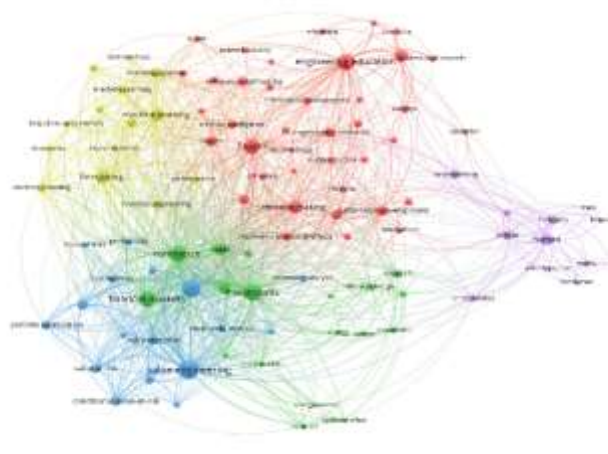


Fig. 3. Distribution of scientific research according to keywords
Source: VOSviewer own processing.

This proves the fact that creative accounting techniques have always been analyzed in close correlation with their financial effects

and their risks. Following other key words, we find that not only the incomes, but also the costs, but also their effect on the obtained

results were the basis of the use of creative accounting, looking every time for the most effective solutions, but also calculation algorithms with the aim of making decisions more efficient taken. The 30 keywords were grouped into 4 clusters between which 220 links were established, which highlight, as we show, the relationship between risks and the economic and social effects that the decisions made produce.

Analyzing the authors' concerns regarding the perception that users of accounting

information have regarding the use of creative accounting techniques and their effect on the results obtained, and setting as conditions: the publication of a number greater than 5 articles/country and a greater number of 5 citations per article, it resulted that the analyzed articles belong to a number of 152 countries, of which only 52 met the established criteria. The 52 countries were grouped into 8 clusters, between which a number of 273 links were established.

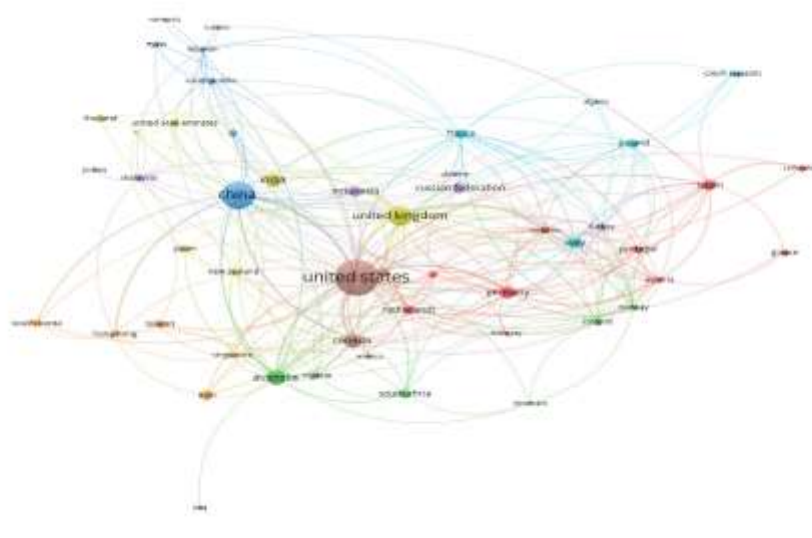


Fig. 4. Distribution of scientific research by country
Source: VOSviewer own processing.

Among the top 10 countries are America, England, China, Australia, France, Canada, Germany, Italy, Spain and Sweden. Romania is on the 50th place with 5 articles published on this topic, which highlights the fact that the subject is one that should be debated, considering the fact that among the countries of the European Union, Romania is in 2023 on the last place in terms of revenue VAT and in the penultimate place in terms of tax evasion.

Or the relationship between the correct application of creative accounting techniques and tax evasion is a direct one, and the awareness of the use of these techniques and their application method can contribute both to improving the results obtained by companies, to improving their relations with the state, but also to increasing the degree of

collection which in turn has a direct impact on the budget.

Analyzing the main research groups in the field of creative accounting techniques (RQ1) it is found that in the first 10 there are centers of some universities or research institutes from Europe and America.

The largest share of articles (22.07%), from the total of 743 articles, belongs to the University of London (164 articles), followed by the Ministry of Education Science of Ukraine with 14.67% (104 articles) and the University of California System with 14.00% (104 items).

The other research centers have published their concerns related to "creative accounting" in a number of between 39 - 58 articles (University of California System - 58; Center National de la Recherche Scientifique CNRS -

53; Russian Academy of Sciences - 49; Harvard University – 44; University of Texas System – 40; University of Leeds – 39; University of Oxford - 39) (Fig. 5).

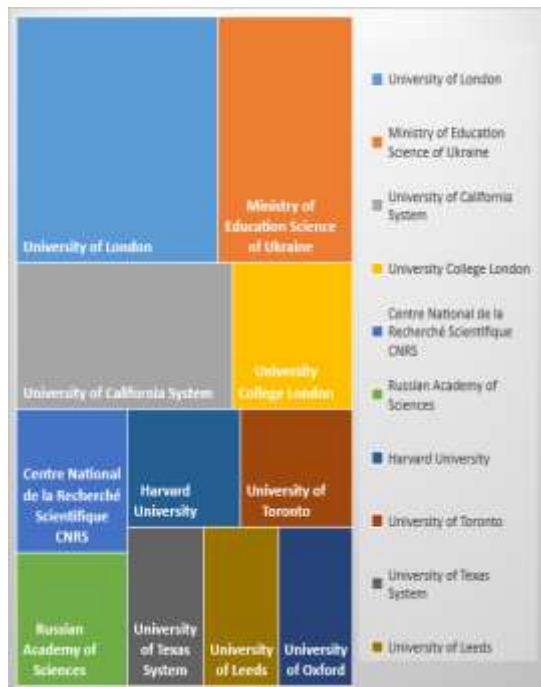


Fig. 5. The main research groups in the field of "creative accounting"
 Source: own processing according to Scopus [22].

Analyzing the countries with the largest number of articles and scientific research in the field of creative accounting, we find that in descending order, on the first 5 places, the following are ranked: USA, Australia, China, Indonesia and Brazil (Fig. 6).

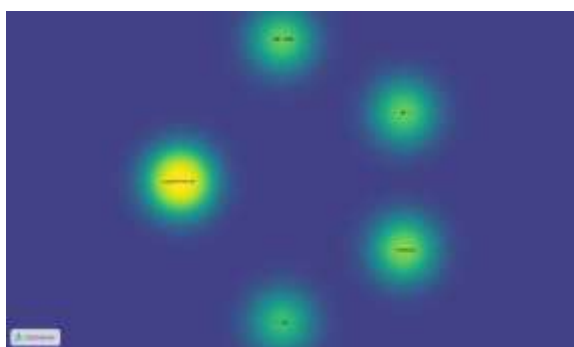


Fig. 6. Distribution of scientific articles, by country
 Source: VOSviewer own processing.

The analysis of the distribution of scientific production in the field of creative accounting, namely the number of citations analyzed compared to the number of publications (RQ2), starting from the WOS database,

highlights the fact that the number of citations increased in the period 1999-2022. In 2022, their highest level was reached (620 citations) (Fig. 7).

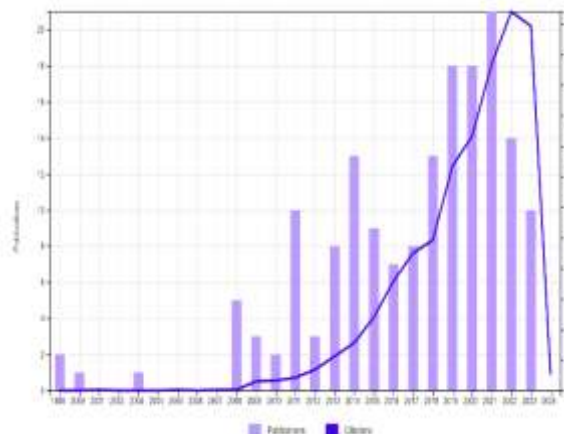


Fig. 7. Evolution of the number of works and citations from the period 1999-2023
 Source: own processing according to WOS [28].

Regarding the number of articles, they reached the highest number in 2021. It is noted that the subject began to have interest in the scientific environment once the economic crisis of 2008, a turning point in the economic environment, when it began to be discussed the subject of "manipulation" of accounting information and the role it had in the presentation of financial statements and in triggering the global crisis.

In order to determine research gaps and to develop research paths in the field of creative accounting (RQ3), the most relevant works in the field were analyzed. 118 articles resulted from the application of the filters, but only the first 10 were retained, the number of citations being the criterion used. The main findings of the analysis undertaken are presented in Table 1.

What the analysis of the 10 most cited articles in the field of "creative accounting" highlights is the need for empirical studies and primary sources, which can thus evaluate the impact of the application of these techniques in an environment that is in continuous change, as a result of countless tax changes which tries to ensure the transparency of financial reporting in the conditions of globalization.

Table 1. Summary of research results in the field of "creative accounting"

Author(s)	Year of publication	Scopus Category	Number of citations	Main findings
Beneish, M.D.	2001	Managerial Finance	168	The research analyzes how widespread the earnings management procedure is, reducing or increasing revenues in relation to the financial interests of companies. At the same time, the earnings management incentives are also analyzed, proposing the expansion of future research. The paper also presents the specialists' perspective regarding the analyzed phenomena, which in fact constitute elements of "creative accounting" and "financial engineering" [4].
Milesi-Ferretti, G.M.	2004	Journal of Public Economics	153	The current research highlights the fact that the "relaxed" fiscal regulations are what lead companies to resort to fiscal optimization and the use of "creative accounting". At the same time, it shows that the detection of "creative accounting" tools is difficult to achieve, this depends on several factors, including the degree of use of financial engineering and the transparency of financial reporting [16].
Tsalavoutas, I., André, P., Evans, L.	2012	British Accounting Review	85	This paper analyzes aspects related to the application of IFRS in Greece, compared to the previous regulations, through a case study made for a number of companies listed on the stock exchange. The accounting value of own capital and that of net income are analyzed, elements that express the value of a company. The method of management and accounting reporting of these indicators can be seen as a way of fiscal optimization, therefore the perspective of the users is followed, being the reconciliation between the national accounting regulations and IFRS, under the conditions that the value is important both for shareholders and for other categories of investors [26].
Vinnari, E.M., Näsi, S.	2008	Scottish Journal of Political Economy	55	The paper analyzes the role of accrual accounting and its application in the public sector, following the perception of its use both from the point of view of practitioners and from the point of view of academic specialists. The research highlights the fact that the accrual accounting of the public sector, in turn, offers opportunities for the application of creative accounting and earnings management tools. However, it is shown that this system is much less permissive when reporting is done according to international regulations, and not national norms [27].
Bernoth, K., Wolff, G.B.	2008	Scottish Journal of Political Economy	55	The paper analyzes the effects of applying "creative accounting" on bond yields. The case study is carried out at the level of the European Union, a constant spread of these techniques that result in an increase in the risk premium. However, considering that fiscal transparency leads to a decrease in risk, this is proposed as a measure to reduce the negative effects of interest management in the case of bonds [6].
Baralexis, S.	2004	Managerial Auditing Journal	48	Noticing the inefficiency of applying the same analysis models of capital markets both in the case of large and small countries, the author investigates the perception of the application of "creative accounting" practices in Greece. Stating that these are quite widespread, he identifies the methods of use and the reasons for resorting to such practices, showing that in the case of large companies it is an overestimation of profits, and in the case of small companies it is an underestimation. The purpose of overvaluation is to increase external financing, and that of undervaluation is to reduce taxes. At the same time, the author also identifies solutions, emphasizing the fact that the reporting mode is important both for internal users and for those external

				to the companies [2].
Maltritz, D., Wüste, S.	2015	Economic Modelling	43	The paper approaches a panel research with the aim of identifying fiscal rules and their impact on the way of accounting reporting. It is also analyzed, the specialized literature following the "creative" ways of interpreting and applying the accounting legislation at the level of the EU countries. The study thus establishes the significant influence of fiscal rules on stock-flow adjustments, which influence accounting reporting decisions [12].
Benito, B., Montesinos, V., Bastida, F.	2008	Critical Perspectives on Accounting	42	The research analyzes the method of accounting recognition of private financing, based on a case study carried out in Spain, as well as the mode of their transfer in the financial statements, considering them as an example of the use of "creative accounting". Thus, we find that the current research also addresses particular aspects related to the application of "creative accounting" tools [5].
Tassadaq, F., Malik, Q.A.	2015	International Journal of Economics and Financial Issues	33	The research empirically investigates the issue of applying "creative accounting" in financial reporting. It is one of the works that brings into discussion the issue of ethical responsibility of creative accounting, and the role that financial auditors, legislative regulations, etc. they have it on its practical application. The research is both documentary and applied, based on a case study based on the collection of information. The study recommends the cautious use of "creative accounting" tools, because although they do not contravene the law, it can be associated with manipulative behavior, with a negative impact on the image of any company [25].
Carlin, T.M., Finch, N.	2011	Pacific Accounting Review	32	The research has an empirical character, based on the results of the audit of a number of 200 companies listed on the Australian stock exchange, regarding the determination and registration of goodwill, one of the elements that allow the manipulation of accounting information. The work highlights the level of difficulty regarding financial reporting, due to the accounting rules (IFRS). What adds to the work, compared to the previous researches, is the complex perspective regarding the depreciation of the goodwill, thus testing the quality of IFRS compliance [7].

Source: Own precessing.

Regarding the research methodology, it is found that half of the papers are based mainly on the review of specialized literature, the others are based on other secondary research methodologies and on case studies, which analyze both the public and the private domain, both the case of listed entities, such as small companies. The obtained results are aimed at improving the way of accounting reporting and ensuring transparency.

CONCLUSIONS

The present research, based on the bibliometric analysis of scientific research works in the field of creative accounting, had as its goal the development of research in this field, starting from the fact that longitudinal

studies are the ones that contribute to the clarification of research directions. The results obtained allowed us to create an objective scientific mapping of how scientific production evolved in the analyzed period (1999-2023) and allowed us to create a map of the knowledge that was disseminated through the research conducted.

There is a growing interest in the subject of creative accounting in recent years, but especially since 2008, the year the global economic crisis started. The non-existence of a sustained pace of researchers, considering the fact that the maximum number of works/author/authors who addressed this topic is 4. Analyzing the most relevant and influential articles, from the point of view of citations, we find that for the first ten articles,

the number of citations varies from 32 to 168 citations. On the other hand, only half of them are based on case studies, the rest being bibliographic analyses, which highlight the need to publish more case studies, which help to understand creative accounting practices and the way of accounting reporting.

We consider that the contributions of this research are the following:

- the work offers a major contribution in the scientific field of understanding the use of creative accounting as a result of the systematization of existing knowledge
- identifying research gaps, which requires the realization of empirical and primary studies in the field of creative accounting
- the research identifies both the aspects not covered, but also their limits, thus offering opportunities regarding the expansion of scientific research in the field of creative accounting

In turn, the research carried out has some limitations that can nevertheless be considered as a foundation for conducting future studies.

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