



Assurance on Non-Financial Information – Challenges and Opportunities

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Abstract

In recent years, large companies have moved from the voluntary to the mandatory stage of reporting non-financial information on environmental, social and governance issues. Thus, in order to increase the degree of confidence in these reports, auditors can provide assurance engagements that contribute to a better image of the companies. The purpose of the paper is highlighted on two objectives, namely the first objective regarding the practices of an assurance engagement and the second objective related to the identification of existing research on assurance of the sustainability reports of non-financial information. For the first objective, based on the guidelines and recommendations issued by the professional bodies, the challenges that auditors have to meet in fulfilling their engagements were analyzed. The methodology used for the second objective was a bibliometric analysis using VOSviewer software, of a sample of 240 papers from publications indexed in the Web of Science – Clarivate Analytics database from the last 20 years. The results obtained showed that the number of published papers has had an upward trend in the last five years, with authors from all continents, but mainly from English speaking countries. The topics approached by the authors were shaped around the concepts of assurance, sustainability reports, governance and opportunities, following the bibliometric analysis resulting in a close connection between them. The basic conclusion that emerges is that this topic remains a subject of debate that still needs to be explored in order to identify all the challenges that auditors face and that would be possible solutions, both as a regulation and as an audit practice.

Kew words: non-financial information; sustainability; assurance; reporting; directive; social responsibility;

JEL Classification: M41, M42, M48

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Introduction

Non-financial reporting (NFR) is a topic under continuous debate and is subject to a review process (Monciardini et al., 2020). If, until recently, financial information (FI) was considered sufficient, now it is only part of the image of a company (Accountancy Europe, 2019). Thus, non-financial information (NFI) complements financial information, leading to integrated thinking and reporting (Di Vaio et al., 2020).

From a practical point of view, the financial information is prepared for reporting by specialists in the financial-accounting field, according to the normative acts that regulate this aspect, whether they are national or international regulations. The reporting of non-financial information requires knowledge in several areas, but the regulation of the reporting of these aspects is also included in the normative acts that refer to financial information. Therefore, the role of the professional accountant is a major one in preparing the reporting of both financial and non-financial information. Also, the practices used by auditors in assurance on reported information are of particular importance for the credibility of sustainability reporting. (Dando & Swift, 2003; Simnett, Vanstraelen, & Chua, 2009; Kolk & Perego, 2010; Braam & Peeters, 2018).

The annual reports of the companies are intended to inform investors and other stakeholders (Hațegan et al., 2015). Thus, if the opinion on the financial information is expressed through the reports issued by the financial auditors, then the question also arises of how to ensure the truthfulness of the non-financial information. Power (1996, 1999) argued that practitioners can make new areas auditable by simultaneously creating a consensus around a stable and legitimate knowledge base for audit practice, as well as an auditable environment. Thus, this new knowledge can be applied in the case of non-financial information.

Therefore, the purpose of this paper is delimited on two objectives. The first objective is to analyze and synthesize the main challenges for auditors in evaluating non-financial information, based on the guidelines and recommendations of professional bodies in order to identify opportunities that arise in the development of the accounting profession. The second objective refers to the bibliometric analysis of research published about assurance on NFI reporting, based on a sample of 240 papers published in the period 2000-2021 in journals

indexed in the Web of Science – Clarivate Analytics (WoS) database, using VOSviewer software.

The paper contains an analysis of the available data on assurance on the reporting of non-financial information by companies, from the perspective of the need for this engagement. The paper can be a bibliographic source for researchers in the field of accounting and financial auditing, for company management representatives to understand the need and importance of reporting non-financial information on environmental, social and governance issues. Also, it contributes to existing research by synthesizing information on current research challenges and topics in the field studied.

The paper is organized as follows: in the next section the theoretical background is presented, after which the research methodology is detailed. The third section presents the results obtained together with the discussions generated by the research carried out. The final section contains the main conclusions, as well as the limits of the research together with possible future research directions for the development of the studied topic.

1. Theoretical background

Non-financial information relates mainly to environmental, social and governance issues, as regulated in Directive 2014/95 / EU on the presentation of non-financial information, (Directive) applicable to companies based in European Union countries. At the international level there are other similar regulations adapted to the specifics of the legislation of each country.

European legislation does not provide for a standard reporting model, reports may vary in structure and content. The information presented in the non-financial reports is relevant when it allows us to understand the impact that the company's activities have on the environment and on society, but also how the company's performance, position and development are affected.

The sustainability practices of companies vary depending on their size, the level of maturity of the business, the complexity of business processes, strategic planning, organizational structure and the interests of the parties.

Increasing investor pressure and corporate leadership awareness have led to the development of a number of reporting frameworks that seek to capture the relationship between non-financial and financial performance, a summary of which is presented in **Table no. 1**.

Table no. 1. Non-financial reporting frameworks

Abbrev.	Issuer type / name	Framework
GRI	Independent organization GRI	Global Reporting Initiative
IIRC	Non-profit organization Value Reporting Foundation	International Integrated Reporting Council
SASB	Non-profit organization Value Reporting Foundation	Sustainability Accounting Standards Board
SDG	Organization of Nations United (UN)	United Nation – Sustainable Development Goals
TCFD	Independent organization TCFD	Task Force on Climate-Related Financial Disclosures
UNGC	UN	United Nation – Global Compact
CDSB	Consortium of non-profit organizations CDSB	Climate Disclosure Standards Board
CDP	Non-profit organization CDP	Disclosure Insight Action

Source: Own processing

From previous research (Zaman et al., 2021) resulted that the most common reporting framework was GRI, but in recent years there has been an increase in reporting related to SDG standards (IFAC, 2021).

According to the Directive, companies with more than 500 employees must present the business model, policies and processes implemented in terms of environmental and social aspects. The information may be presented as a component non-financial statement of the annual report or in the sustainability report as a separate report.

Companies can also opt for an integrated report based on the IIRC reporting framework. The summary of the reporting modalities is presented in **Table no. 2**.

Table no. 2. Type of report

Type	Regulations
Sustainability report	Directive
Annual report	Directive
Integrated report	IIRC

Source: Own processing

According to the study conducted by IFAC (2021) it turned out that the most common way of reporting information has materialized in sustainability reports.

Assurance on non-financial reporting involves choosing the standards applicable to it. Thus, the IAASB considered the most appropriate is the standard 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*, thus it developed the non-authoritative practical guidance to assist practitioners in performing of the extended external reporting assurance engagements (IAASB, 2021).

The certification audit, performed by specialists other than financial auditors based on other standards, was studied by Boiral & Gendron (2011). The aim of the research referred to the extent to which the certification audit can contribute to the achievement of organizational responsibility for sustainable development. The paper carried out critical analyzes of financial audit and standardization (ISO) practices, concluding that the audit function must be viewed from an interdisciplinary point of view.

2. Methodology

To achieve the first objective, the research methodology is based on the analysis and synthesis of information on the challenges of assurance on NFI reporting. For the second objective, the bibliometric analysis is used to identify trends and approaches in the field of assurance on NFI reporting, as well as the authors who have had an impact in the analyzed field.

VOSviewer software was used to process the data to identify the relationships between the keywords used in the literature, as well as between the authors and the citations of their papers. The bibliometric analysis was based on data downloaded from the Web of Science (WoS) – Clarivate Analytics as of July 31, 2021, for the period 2000–2021.

In order to identify the papers that addressed the topic of assurance on NFI, the groups that contained in the topic the keywords “assurance” or “audit” were taken into account, along with one of the following words: “non-financial”, “sustainability”, “corporate social responsibility”, “CSR”, “integrated report”, “integrated reporting”, “environmental”, “greenhouse gas”, “carbon”.

The database highlighted a number of 240 papers from all types of documents. The list was saved as a .txt file and a thesaurus file was provided to combine the almost identical terms. This file was subsequently processed through VOSviewer software, providing keyword analysis and citations based on individual authors and the country-by-country dispersion of the papers.

3. Results

3.1. Challenges in the assurance on NFI

In order to meet the first objective, the guidelines and recommendations published by professional bodies were identified, namely IFAC, IAASB, IIRC, Accountancy Europe and other bodies and consulting companies.

Thus, the IAASB (2021) of IFAC developed the above documents in order to promote consistent and high-quality application of the standard in extensive external reporting assurance engagements to increase reporting quality, strengthen confidence in resulting assurance reports and increase the credibility of reports, so that users can rely on this information. It follows from these documents that in order to establish

credibility and trust, there must be a solid framework tailored to the needs of users, strong governance, more detailed and consistent information and professional assurance services. Also included are illustrative examples for carrying out assurance engagements, which contain aspects of reporting frameworks, the industry in which the company operates, the type of assurance, limited or reasonable, and how to exercise professional judgment.

Accountancy Europe (2018) also conducted a study addressed to experts who were investigated on the needs for assurance of non-financial information. The study showed that the standards used were the international standards on assurance engagements (respectively those coded with 3000, 3400, 3402 and 3410) developed by the IAASB (2018). Based on this document, the challenges identified by the respondents of the mentioned study were summarized in **Table no. 3**.

From the correlation of the presented aspects, it can be deduced that the engagements of the auditors to assurance on NFI reporting is much more difficult than the audit of the financial information, due to the multitude of possible reporting frameworks, the reporting method, as well as the specifics of the company.

Issues	Challenges
1. The level of maturity of the reporting	<ul style="list-style-type: none"> • Lower control systems • Lack of information with negative effect • Different definitions of some concepts compared to accounting principles • Reduced customer availability in relation to the auditor
2. The purpose of the assurance engagement	<ul style="list-style-type: none"> • Understanding the scope and responsibilities • Assessing the extent of the engagement according to the reporting method
3. The assessment of engagement	<ul style="list-style-type: none"> • Uncertainty about future information such as strategies and estimates • Occurrence of problems that do not depend on the company (e.g., supply of raw materials) • Formal reporting without highlighting the connection with the company's performance • The impact of technology
4. The assessment of reporting framework	<ul style="list-style-type: none"> • Coherence and comparability of reports • Uncertainties on their own criteria developed by companies • Incomplete information on reporting criteria
5. The assessment of materiality	<ul style="list-style-type: none"> • Defining the users of non-financial reporting • Lack of a common model for setting the threshold • Impossibility of establishing a single significance materiality • The definition of NFI misstatement is different from financial information
6. The form of assurance report	<ul style="list-style-type: none"> • Understanding NFI assurance reports • Applying standards by including more information than the financial audit

Source: Own processing, based on data from Accountancy Europe, 2018

Therefore, the challenges identified in the study conducted by Accountancy Europe (2018) are fully justified which leads to the need to improve auditors by accumulating new knowledge and attracting specialists in other fields. Possible answers to the challenges presented can be grouped into two main directions. A first direction refers to the improvement of the regulations regarding the mandatory reporting and the content of the reports on NFI (European Reporting LAB, 2021), which will materialize by revising the Directive especially regarding the comparability of information, as well as introducing the requirement of the assurance of sustainability information (European Commission, 2021). A second direction is the application by auditors of standards in assurance engagements, through the issuance by the IAASB of guidelines, procedures, examples, as has already begun with the publication of the guideline on the assurance of the extended external reports (IFAC, IIRC, 2021). These ongoing measures need to be continued by others of this kind in order to lead to a more accurate reporting of NFI and to ensure their veracity.

Sonnerfeldt and Pontoppidan (2020) discussed the challenges of assurance practices in the context of increasingly complex and fragmented regulations. The conclusion of the research was that the concept and assurance standards are still "under development" and the definitions and issues remain ambiguous. They also

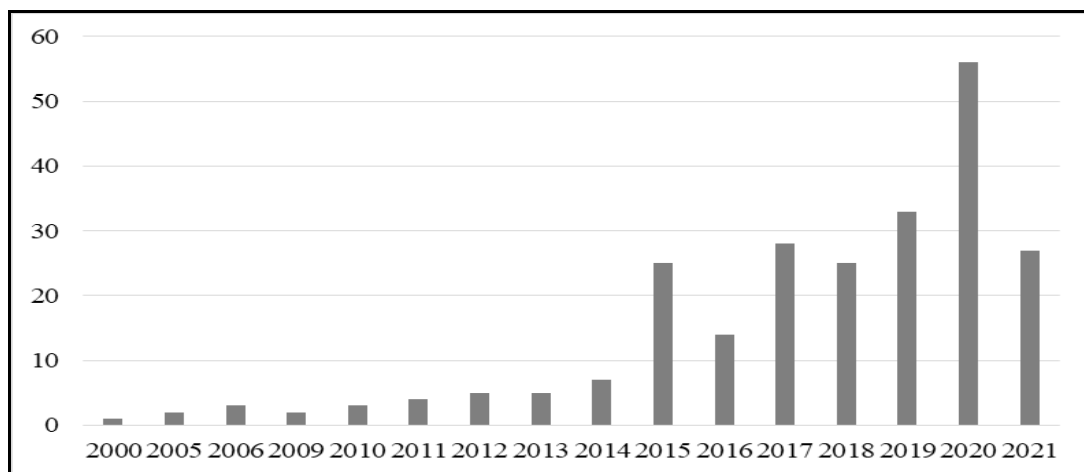
stressed the importance for regulators, companies and their various stakeholders to recognize the value and limitations of assurance, which is a way for companies to improve reporting, but not an end in itself. Their findings referred to the fact that the reports published by companies were only narratives decoupled from organizational realities, so companies should first rethink the purpose of their reporting, and then request the assurance engagement.

The study conducted by IFAC (2021) showed that in some companies the reports were not provided by financial auditors, the non-financial information being certified by specialists other than financial auditors, who applied various standards such as AA1000 *Assurance Standards*, ISO 14064-3 *Greenhouse gases* or other standards. All this shows the complexity of the field of non-financial reporting and its diversity.

3.2. The results of the bibliometric analysis

In the analyzed period 2000-2021, 240 papers were identified that met the selection criteria. *Figure no. 1* shows that the first paper was published in 2000, followed by papers published sporadically in different years. Since 2009, papers have been published every year, with an increasing trend, but only since 2015, the number of papers is growing significantly, reaching 56 papers in 2020.

Figure no. 1. The evolution by years of the number of papers



Source: Own processing

From the point of view of the **document type**, almost 90% of the papers are articles published in the journals of some publishing houses, 10% of the papers were published in conference volumes, 1% in book chapters.

Table no. 4 shows that the **research areas** of the papers published by the authors were diverse, starting from the basic field *Business and Economics* with a

share of over 80%, followed by the field of *Environmental Sciences Ecology*, as well as other subfields within *Technical Sciences* and *Social Sciences*. Also, some journals have been indexed in several fields, which leads to the impossibility of totaling the number of papers according to this criterion.

Table no. 4. Top research areas

Areas	Papers	Weight of
Business Economics	198	82.50
Environmental Sciences Ecology	51	21.25
Science Technology Other Topics	26	10.83
Social Sciences Other Topics	21	8.75
Engineering	11	4.58
Computer Science	7	2.91
Public Administration	7	2.91
Other 23 areas	29	12.09

Source: Own processing

The data processing resulted in the distribution of papers by **country** after the affiliation of the authors, being identified 53 countries. **Table no. 5** shows the countries of origin of the authors who have published a minimum of 10 papers, in descending order. It can be seen that the first two countries hold a third of this total, respectively: Australia (17.08%) and Spain (16.25%), followed by the USA (15.83%) and South Africa (10%).

Table no. 5. Distribution of authors by countries

Countries / Regions	Papers	Weight
Australia	41	17.08
Spain	39	16.25
USA	38	15.83
South Africa	24	10.00
England	20	8.33
Germany	19	7.91
China	17	7.08
Netherlands	17	7.08
Italy	16	6.67
France	11	4.58
New Zealand	10	4.44

Source: Own processing

Keyword analysis is how the most common keywords appeared together in the papers studied. VOSviewer software highlighted 982 keywords. From the total number of words selected, those that had at least 5 occurrences were analyzed, resulting in a selection of 87 words, from which 31 words were eliminated, respectively irrelevant and those that were replaced with similar expressions (for example CSR reporting or merging terms expressed in the singular or plural). Thus, in the end, 56 words were grouped in three clusters, with a minimum of 10 words per cluster, having a setting made in the bibliometric software for resolution one.

Table no. 6 shows the elements of each cluster that interacted with each other. Cluster A is the main one, which refers to assurance, which has made connections with two other clusters, respectively cluster B, with CSR key element and cluster C highlighted by words that mainly refer to governance.

Thus, in cluster A were grouped the words with the most occurrences, starting from the central keyword "assurance" with 139 occurrences, along with other words such as disclosures (104), sustainability report (104), performance (80) words which confirms that the chosen research topic is in an increasing trend. A second group resulting from the analysis (cluster B) was that of corporate social responsibility (90

appearances), which also contains elements derived from its connection with their assurance, respectively impact, perception and independence. The group of words with lower links (cluster C) refers to

governance (54 occurrences), integrated reporting (19) correlated with other terms related to the company (management, internal audit, earnings, ownership).

Table no. 6. Clusters

Cluster A	No.	Cluster B	No.	Cluster C	No.
assurance	139	CSR	90	governance	54
disclosure	104	impact	72	integrated reporting	19
sustainability report	104	legitimacy	28	management	18
performance	80	information	26	insights	14
determinants	57	companies	19	combined	13
quality	52	perceptions	17	framework	7
statements	49	demand	8	internal audit	7
services	39	independence	8	earnings	6
credibility	32	sustainable development	8	opportunities	6
market	20	value	8	ownership	5
cost	19				
stakeholders	17				
audit	16				
accountability	14				
relevance	12				
expertise	11				
auditors	10				
construction	10				

Source: Own processing

The analysis was continued with the identification of the **most cited authors** who published articles regarding the assurance on NFI reporting that were indexed in the WoS database. Out of the total of 484 identified authors, the selection criterion was that an author had accumulated at

least 100 citations, so VOSviewer highlighted 37 authors who met these conditions. From the data processing, it was found that there is no close relationship between the authors in terms of co-authorship and citations. **Table no. 7** presents the list of authors with over 200 citations.

Table no. 7. Top authors having at least 100 citations

Authors	Documents	Citations
Simnett, Roger	7	869
Chua, Wai Fong	1	501
Vanstraelen, Ann	1	501
Perego, Paolo	4	481
Kolk, Ans	2	466
O'Dwyer, Brendan	3	419
Garcia-Benau, Maria A.	4	301
Owen, David	1	263
Unerman, Jeffrey	1	263
Zorio, Ana	4	259
Martinez-Ferrero, Jennifer	11	249
Garcia-Sanchez, Isabel-Maria	8	216

Source: Own processing

The analysis showed that the most cited authors were as follows: Simnett with 869 citations from 7 documents, followed by Chua and Vanstraelen with 501 citations from a single document. In fact, the mentioned authors were co-authors of a paper that accumulated 501 citations. The ranking is continued by three authors with over 400 accumulated citations, namely Perego (481), Kolk (466) and O'Dwyer (419). The author with the most papers included in the sample was Martinez-Ferrero, respectively with 11 papers.

To develop the research, the papers were centralized on the publications and publishers that own them. **Table no. 8** includes **the journals** in which the papers were published, in descending order of number. The analyzed papers were published in prestigious journals, from which the journals were selected in which at least 3 papers on the studied topic were published. It should be noted that a number of 17 papers that were presented at conferences are registered as published in 2 separate publications, which led to the impossibility of totaling the amounts in the table.

Table no. 8. Distribution of papers by publications

Publication Titles	No of papers	Weight (%)
Auditing: A Journal of Practice & Theory	14	5.83
Journal of Business Ethics	14	5.83
Corporate Social Responsibility and Environmental Management	12	5.00
Accounting Auditing Accountability Journal	11	4.58
Business Strategy and the Environment	10	4.17
Sustainability Accounting Management and Policy Journal	8	3.33
European Accounting Review	6	2.50
International Journal of Auditing	6	2.50
Journal of Cleaner Production	6	2.50
Managerial Auditing Journal	6	2.50
Southern African Journal of Accountability and Auditing Research	6	2.50
Sustainability	6	2.50
Meditari Accountancy Research	5	2.08
Contemporary Accounting Research	4	1.67
Accounting Organizations and Society	3	1.25
Australian Accounting Review	3	1.25
British Accounting Review	3	1.25
International Journal of Disclosure and Governance	3	1.25
Journal of Accounting and Public Policy	3	1.25
Journal of International Financial Management Accounting	3	1.25
Social Responsibility Journal	3	1.25
13 journals and conference volumes with 2 articles each	26	10.83
96 journals and conference volumes with one article each	96	40.03

Source: Own processing

Table no. 8 shows that the journal with the most published articles is Auditing: A Journal of Practice & Theory, indexed in Business category, followed by Journal of Business Ethics and Corporate Social Responsibility and Environmental Management, which are

interdisciplinary journals indexed in several categories. It can also be seen that almost half of the number of papers were published as single article or at most two articles in a journal, and the other half of the number of papers was concentrated in the 21 journals presented.

The journals mentioned in the previous table are published by various **publishers** whose situation is

presented in **Table no. 9**, in descending order according to the number of papers.

Publishers	Papers	Weight
Wiley	48	20.00
Emerald Group Publishing	46	19.17
Springer Nature	29	12.08
Elsevier	24	10.00
American Accounting Association	18	7.50
Taylor & Francis	13	5.42
MDPI	7	2.92
IEEE	7	2.92
South African Inst Government Auditors	6	2.50
Other 5 publishers with 2 articles each	10	4.16
Other 25 publishers with one article each	32	13.33
Total	240	100.00

Source: Own processing

Table no. 9 shows that the first 3 publishers hold more than half of the total papers analyzed. It should be noted that papers have also been registered by publisher of professional associations of accountants, represented mainly by the American Accounting Association, which owns the *Auditing: A Journal of Practice & Theory*, being

the journal with the most papers on the subject studied. This fact shows a permanent concern of professional accountants.

Out of the total number, 14 papers were highlighted that accumulated at least 100 citations, the situation of which is presented in **Table no. 10**.

Title	Authors	Journal	Year	Total citations	Annual aver.
Assurance on Sustainability Reports: An International Comparison	Simnett, Roger; Vanstraelen, Ann; Chua, Wai Fong	Accounting Review	2009	501	38.54
Determinants of the Adoption of Sustainability Assurance Statements: An International Investigation	Kolk, Ans; Perego, Paolo	Business Strategy and the Environment	2010	273	22.75
Seeking legitimacy for new assurance forms: The case of assurance on sustainability reporting	O'Dwyer, Brendan; Owen, David; Unerman, Jeffrey	Accounting Organizations and Society	2011	263	23.91
Multinationals' Accountability on Sustainability: The Evolution of Third-party Assurance of Sustainability Reports	Perego, Paolo; Kolk, Ans	Journal of Business Ethics	2012	193	19.3
Impact of Assurance and Assurer's Professional Affiliation on Financial Analysts' Assessment of Credibility of Corporate Social Responsibility Information	Pflugrath, Gary; Roebuck, Peter; Simnett, Roger	Auditing: A Journal of Practice & Theory	2011	171	15.55
CSR and Assurance Services: A Research Agenda	Cohen, Jeffrey R.; Simnett, Roger	Auditing: A Journal of Practice & Theory	2015	154	22.00
The Case of Sustainability Assurance: Constructing a New Assurance Service	O'Dwyer, Brendan	Contemporary Accounting Research	2011	142	12.91
Assurance of Sustainability Reports: Impact on Report Users' Confidence and Perceptions of Information Credibility	Hodge, Kristy; Subramaniam, Nava; Stewart, Jenny	Australian Accounting Review AUSTRALIAN ACCOUNTING REVIEW	2009	139	10.59

Title	Authors	Journal	Year	Total citations	Annual aver.
Understanding and Contributing to the Enigma of Corporate Social Responsibility (CSR) Assurance in the United States	Casey, Ryan J.; Grenier, Jonathan H.	Auditing: A Journal of Practice & Theory	2015	129	18.43
The Association between Sustainability Governance Characteristics and the Assurance of Corporate Sustainability Reports	Peters, Gary F.; Romi, Andrea M.	Auditing: A Journal of Practice & Theory	2015	123	17.57
Sustainability Reporting and Assurance: A Historical Analysis on a World-Wide Phenomenon	Junior Mori, Renzo, Best, Peter J.; Cotter, Julie	Journal Of Business Ethics	2014	123	15.38
How Credible are Mining Corporations' Sustainability Reports? A Critical Analysis of External Assurance under the Requirements of the International Council on Mining and Metals	Fonseca, Alberto	Corporate Social Responsibility and Environmental Management	2010	112	9.33
Corporate social responsibility research in accounting	Huang, Xiaobei Beryl; Watson, Luke	Journal Of Accounting Literature	2015	106	15.14
Sustainability Development and the Quality of Assurance Reports: Empirical Evidence	Zorio, Ana; Garcia-Benau, Mari A.; Sierra, Laura	Business Strategy and The Environment	2013	101	11.22

Source: Own processing

Table no. 10 shows that the *Accounting Review* journal has only one article published, but which has accumulated the most citations. The journal *Auditing: A Journal of Practice & Theory*, ranked first by the number of citations, counted 4 articles that had over 100 citations.

It should be noted that articles written since 2009 that consisted mainly of non-financial reporting by companies have accumulated consistent citations.

The first article published in 2000, written by Wallage, accumulated 63 citations, being cited annually since 2009. The aim of the article was to highlight the experience resulting from the verification of sustainability reports, respectively the report issued by Shell in 2000. At that time, standards were not available for reporting, which meant applying new criteria needed to assess management's claims about sustainability. The conclusion of the study was that verifying sustainability reports is a very difficult assurance service for financial auditors, which could be a challenge for academic researchers to develop additional research. We can say that Wallage (2000) paved the way for research in this field with a long-term vision.

A year later, Gray (2001) performed a 30-year radiograph from 1970-2000 on social accounting, reporting and auditing. Thus, the certification of information was performed through the social audit performed by independent bodies, but without usually being hired by the organization in question.

The above-mentioned articles addressed voluntary non-financial reporting more because in the periods when the research was conducted, the regulations on mandatory reporting were not yet generalized. One topic addressed was that of international comparisons and investigations. Thus, Simnett, Vanstraelen and Chua (2009) analyzed the emerging voluntary assurance market of a sample of sustainability reports published between 2002-2004. The results showed that companies that wanted to build their corporate reputation resorted to assurance engagement on sustainability reporting, regardless of whether the assurance provider is an auditor or another specialist, the auditor being preferred by companies in stakeholder-oriented countries. Kolk and Perego (2010) investigated the factors influencing the use of voluntary services for assurance on sustainability reports, on a sample of companies included in the international index Fortune Global 250 for the years 1999, 2002 and 2005. The results were similar to those of the aforementioned authors, namely that companies operating in countries that are more stakeholder-oriented and have a weaker governance regime are more likely to require to assurance on sustainability reporting. Perego and Kolk (2012) analyzed the reports issued by multinational companies, finding that they projected a decoupled or symbolic image of liability, thus undermining the credibility of assurance practices.

Another topic addressed was that of legitimacy, so O'Dwyer et al. (2011) examined the evolution of the

legitimation processes adopted by practitioners in assurance of the sustainability of audit firms based on the structure and the content of assurance statements, so that users are fully informed about the assurance engagement made.

Content analyzes of sustainability reports were also performed to establish their credibility. Pflugrath, Roebuck and Simnett (2011) concluded that the credibility of a sustainability report is higher when it is assured and when the assurer is a professional accountant. Also, according to research conducted by Hodge et al. (2009) users had more confidence in sustainability reports when the level of assurance offered is reasonable (i.e., high, but not absolute) and when the assurance was provided by an accounting and auditing firm.

O'Dwyer, B. (2011) sought to understand how assurance practitioners have come to construct practices for assurance on sustainability reporting, and the extent to which these efforts have made these reports auditable, highlighting the inherent difficulties involved in the direct transfer of traditional audit practices to new areas of assurance characterized by unclear qualitative data.

Casey & Grenier (2015) analyzed the assurance market of corporate social responsibility (CSR) in the United States, the results showing that for companies in industries highly regulated their supervision can act as a substitute for assurance on CSR, so demand of these services was not very high. The level of the assurance services market was researched by Cohen and Simnett (2015) who identified the characteristics of this market that may have an impact on the decision to use these services and the choice of service provider based on competitiveness and quality requirements.

Another researched topic was that of corporate governance mechanisms, Peters and Roma (2015) investigated whether sustainability-oriented corporate governance mechanisms had an impact on the voluntary assurance of corporate sustainability reports. Thus, the companies that had a sustainability director within the management team turned to the services of assurance of the sustainability reports, and this connection increased when the director had experience in this field, being preferred as service providers the financial audit companies.

The topic of INF reporting has been intensively studied in the last 5 years, during which time mandatory regulations have become widespread in several countries, so that the authors have addressed the same topics as those presented above, or new ones (García-Sánchez, 2021).

Thus, the credibility of the reports was further studied by García-Sánchez (2020), Quick & Inwinkl (2020) and Zhou, Simnett & Bray (2020).

Challenges of engagements and assurance practices have been studied by Braam & Peeters (2018), Sonnerfeldt & Pontoppidan (2020) and Krasodomska, Simnett & Street (2021). Other topics addressed referred to the quality of assurance engagements that may be influenced by audit committees (Zaman et al. (2021), but also to the analysis of assurance reports in the case of a financial market, such as Italy (Rossi & Tarquinio, 2017).

A systematic literature review on the assurance of extensive external reporting was carried out by Venter & van Eck (2021), based on articles published between 2009 and 2020 in relevant journals indexed in the Scopus, EBSCOhost and ProQuest's databases. The analyzed articles addressed different research methodologies and tools, such as archival, experimental, interviews, case studies, surveys and content analysis. The results of the study showed a rapid growth of the literature in the period 2018-2020, the main topics addressed being the determining factors and the consequences of assurance.

Previously, the most relevant papers were presented, but there may be other valuable researches. The authors' general findings were that auditors had difficulty in assurance engagements, indicating that a review of non-financial reporting regulations was required, and that companies needed to be more responsible in disclosing the information included in published reports.

From the literature review we found that the number of papers that systematically reviewed the existing research literature on non-financial reporting and bibliometric analysis was relatively low, most focused on the topic of sustainability reporting, expressed by various concepts. Di Vaio et al. (2020) in the study conducted on a sample of 60 papers published in the period 1990-2019 identified a close link between the concepts of integrated thinking and non-financial reporting. Erkens, Paugam, & Stolowy (2015) conducted a bibliometric analysis of articles published on INF between 1973-2013 and found that research reached a certain degree of maturity in the early 2000s and that the most common topic studied in INF research has been corporate social reporting. Pasko et al. (2021) carried out a bibliometric analysis on the papers published on sustainability reporting in the period 1981-2020 and found that their number increased more after 2009, after which there is a maturity of research, so how much research is the more recent the more elaborate they are.

Compared to the previous bibliometric analyzes mentioned in the paper, the originality of our paper is given by the association of the concept of assurance with the expressions that refer to the reporting of non-financial information.

Conclusions

The assurance engagement of non-financial information is different from auditing financial information. Thus, auditors issue the report or statement of assurance on the basis of other standards, which may create difficulties in their application. The difficulties can arise from the way the reports were prepared, but also by the practices that the auditor must carry out in carrying out the engagement.

The aim of the paper was to highlight the main challenges of auditors in assurance engagements on non-financial information and what research has been published on this topic. A bibliometric analysis of the links between key concepts, authors, journals in which the papers were published, as well as the number of citations that ensure the visibility of research results was also performed.

From the synthesis of the information from the guides and recommendations of the professional bodies it resulted that the auditors are faced with major challenges due on the one hand to the inconsistency, but also to the diversity of reporting frameworks and the way companies comply with them (Sonnerfeldt & Pontoppidan, 2020, Krasodomska, Simnett & Street, 2021). On the other hand, there are aspects related to the auditing profession, respectively to the application of audit standards, which do not yet provide for uniform practices in fulfilling the engagements, leaving a greater freedom to the professional reasoning of the auditors. But this situation can also be seen as an opportunity in the professional development of auditors to provide quality services. (Venter & van Eck, 2021, Zaman et al., 2021).

The results of the bibliometric analysis showed that the research interest on the studied topic has had an increasing trend in recent years, largely due to mandatory regulations on non-financial reporting, similar results being

obtained by Venter & van Eck (2021). It was confirmed the existence of close links between the concepts studied, namely assurance, sustainability reporting, governance.

The basic conclusion that emerges is that research in the field has evolved from the analysis of voluntary reporting to the analysis of mandatory reporting. Since the introduction of mandatory non-financial reporting, the problem of the difficulty of the assurance engagement to provide this information has become more pronounced, which has led to many debates in professional bodies to identify the challenges that auditors have to meet. This topic remains a topic of debate that still needs to be explored to identify all the challenges that auditors face and that would be possible solutions to both regulatory and audit practices (Sonnerfeldt & Pontoppidan, 2020; Krasodomska, Simnett & Street, 2021).

The results obtained can be useful for professional accountants to improve non-financial reporting, the study conducted can be a guide for auditors, which summarizes the main challenges identified in providing assurance engagements. Managers can identify the critical points of companies and take action in time, in accordance with the findings summarized by Accountancy Europe (2018). Regulators can identify issues that should be legislated so that companies' reporting leads to increased investor confidence.

The paper contributes to the knowledge of the reality in the field of non-financial reporting, being a source for researchers in the field of accounting and auditing, through information on a summary of papers published on this topic that can be developed in connection with other fields, such as financial audit.

The analysis had some limitations given by the sample of analyzed papers, taken from a single database (WoS), which led to the limitation of identifying other published papers, but the research can be continued by a future bibliometric analysis of articles indexed in other databases. The paper is a premise for quantitative research that may include in the study variables that lead to the creation of an econometric model on the factors that influence the content of non-financial reporting.

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