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# Sustainability Accounting Studies: A Metasynthesis

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**Abstract:** This review article seeks to discuss the sustainability accounting concept by examining previously conducted studies on this topic in order to understand its thematic progress in the academic literature. This study is a metasynthesis, where, in the identification phase, 334 documents published in the Web of Science (WoS) database are selected, and in the literature review stages, 15 re-reviews are selected according to the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) method. The results reveal that businesses, academia, and regulatory bodies do not recognize a homogeneous terminology when it comes to sustainability accounting. There is a variety of synonyms that complicate the disclosure of activities carried out by companies in the pursuit of the sustainability development goals (SDGs), with SDGs 5, 6, 13, 14, and 15 being analyzed in the academic literature in relation to the sustainability accounting concept. For future research directions, the review articles analyzed suggest examining the concrete effects produced by practices related to sustainability performance in companies, linking the relevance of understanding the sustainability reports related to the sustainability performance of companies.

**Keywords:** sustainability accounting; sustainability business; sustainability reporting; triple bottom line; sustainability development goals



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# 1. Introduction

To ensure that sustainability practices become deeply embedded in organizations, it is vital that reporting integrates sustainability measures and tools, such as social, environmental, and governance metrics, in order to demonstrate market interest in non-financial metrics, including sustainability [1–3]. Accounting work is closely related to what information needs to be collected because this depends on the accounting transactions that are processed and subsequently disclosed in financial, non-financial, and sustainability reports. There is a general agreement on the importance of disclosing companies' sustainability performances, but there is a gap in accounting standards to delimit them [4,5].

However, the problem lies in the fact that there is no single standard that indicates the information that must be disclosed—or the obligation to disclose—on the actions carried out by companies and the economic, social, and environmental impacts that they generate [1,6]. In addition to the situation described above, there is a multitude of complex and confusing terminologies currently used in the sustainability accounting framework and its respective reports [7]. This situation complicates the recording, processing, and dissemination of information related to sustainability development.

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The present review aims to analyze the sustainability accounting concept by examining previously conducted studies in order to understand the progress of the subject in the academic literature. This paper is structured as follows: Section 1, Introduction; Section 2, Background Literature; Section 3, Methods; Section 4, Metasynthesis Results; Section 5, Discussion; and Section 6, Conclusions.

# 2. Background Literature

# 2.1. Sustainability Accounting at Present

There are environmental, social, and ethical issues that can be managed in time by companies or organizations with an assessment of their interactions with the environment and society [8–10]. Many stakeholders expect companies or organizations to carry out practices aimed at sustainability and to report these actions and their results [11-13]. There is a need to understand sustainability development in a holistic and comprehensive manner, as it is essential for the future of the human species to ensure that we leave future generations with a habitable planet [14-16]. Under the heading of sustainability management or sustainability performance, companies are recognized for the sustainability impact of their actions [17–19]. The need for information from stakeholders, such as governments, communities where companies have operation centers, and processing plants, progressively expands the amount and types of information required to be disclosed [4,20,21]. This situation has led accountants, both practitioners and academics, to broaden their perspective on accounting and accountability, allowing them to develop the necessary skills and competencies to inform society about the sustainability impact of companies or organizations, linking sustainability with accounting [22]. Accountability systems provide an opportunity to demonstrate the results of the social commitment expressed in the missions and visions of organizations, as well as the effective delivery of goods and services aimed at meeting community needs [23]. In fact, accounting should tend to the search for a representation and measurement instrument of all patrimonial elements (an accountability system), as one of its main objectives is to conceptualize and measure the corporate social responsibility phenomenon [24].

In addition, accounting can help to achieve the sustainability development goals [25–27]. In this context, sustainability accounting emerges, dealing with the processing of business transactions. It considers economic, environmental, and social factors to safeguard business assets and protect the interests of society [28–30].

# 2.2. Sustainability Reporting and Accounting Reporting

A sustainability report completes the process by disclosing an organization's sustainability performance (economic, environmental, and social performances) [31]. Although sustainability accounting and sustainability reporting are two distinct terms, together, they act as an accountability tool for a company's sustainability production and operations [32], including corporate communication on a company's performance in biodiversity, climate change, and human rights issues [33].

The sustainability accounting concept involves the treatment of business transactions performed by companies (considering economic, environmental, and social factors), the disclosure of the results through sustainability reports [34], the provision of adequate information on sustainability corporate performance to society [35], and the process of communicating an organization's effects on internal and external users through financial and non-financial reporting. This concept recognizes the responsibility of organizations to provide financial information to shareholders about the impact of its non-financial activity (e.g., information concerning energy efficiency, waste management, wastewater, chemicals and waste metals, employment, occupational health and safety, human talent training, community and volunteerism, supply chain, quality control, regulation and compliance) in the triple bottom line framework [36].

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### 3. Methods

To respond to the objective of the metasynthesis review, the following protocols were adhered to: (1) adopting a critical attitude toward the current state of the academic literature, (2) articulating and comparing theories, (3) analyzing the strengths and weaknesses contributed by publications to interpret pre-existing knowledge [37–41], (4) managing to facilitate a comprehensive understanding of qualitative findings through synthesis, but without testing a hypothesis or exploring the dependencies between variables in a model, and (5) developing more precise knowledge, allowing for a deeper and broader understanding than that presented in individual studies [42–45].

Therefore, seven items relevant to meta-analytic reviews and not metasynthesis reviews were excluded from the PRISMA statement, namely, 5 (protocol and registry), 12 (risk of bias in individual studies), 13 (summary measures), 14 (result synthesis), 15 and 22 (risk of bias between studies), and 19 (risk of bias in studies). Thus, this review was developed according to the PRISMA statement standards, following the quality steps for systematic reviews and considering the following items: 1 (title), 2 (structured abstract), 3 (rationale), 4 (objective), 6 (eligibility criteria), 7 (information sources), 8 (search), 9 (study selection), 10 (data extraction process), 11 (data list), 16 (additional analyses), 17 (study selection), 18 (study characteristics), 20 (individual study results), 21 (result synthesis), 23 (additional analyses), 24 (evidence summary), 25 (limitations), 26 (conclusions), and 27 (funding) [46,47].

The information was approached inductively, that is, without predefined analysis categories, except for that included in the sustainability accounting conceptualization. We have focused only on the WoS journal indexing database, and have avoided adding information from other databases that are not comparable in terms of citations, since several studies point out that the results of systematic literature reviews may vary according to the database used [48–52] given the different criteria that exist for calculating the impact factor of journals [51,52]. Specifically, the search was conducted on 18 January 2022. The search term used was "sustainability accounting", using topic field tags (TS, including title, abstract, author keywords, and keywords plus®) and the proximity search operator with word spacing equal to zero (NEAR/0), ensuring an in-depth search for the concept {TS = (Sustainability NEAR/0 Accounting)}, resulting in 334 records in the identification phase. In the check phase, 307 records were excluded because they were not reviews. Similarly, 3 records were excluded because they were not article reviews but book reviews, and 3 records were excluded because they were classified as reviews but were articles. Continuing with the checking phase, 4 reviews were excluded because they only addressed sustainability and not sustainability accounting, and 1 review was excluded because it addressed the national public current account from the payment balance. Finally, 1 review was excluded for addressing family accounting from management accounting. Finally, the PRISMA structure includes 2 reviews related to sustainability accounting in the public sector.

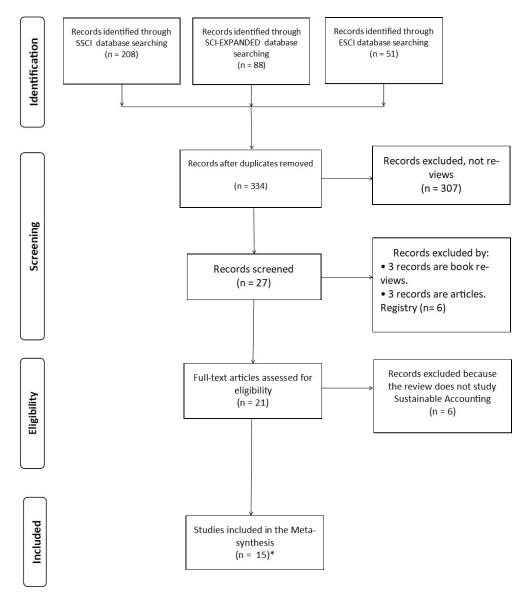
From the 334 records initially retrieved, 15 reviews were included (see Figure 1), conducted between the years 2017 and 2021. All articles selected for this review were published in English.

To extract data from the selected reviews and answer the research question "What is the current and future development of studies in the area of sustainability accounting?", two processes were developed:

- 1. A template design, where the information revealed in each article review was characterized in the form of a finding.
- 2. Each article was read by three researchers participating in this study, who selected the significant topics. The reading began with an analysis of the summaries, using the PICOS framework: problem or topic of interest (P), intervention (I), comparison (C), outcome (O), and study designs (S) [53–55]. The criteria applied in this study were as follows: P = sustainability accounting, I = current study development and the future of sustainability accounting, C = non-comparator, O = re-interpretation of the findings, and S = systematic reviews where sustainability accounting or sustainability reporting is developed. A complete analysis of the reviews was conducted using the

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IMYRD structure: I = introduction; M = methods; R = results, and D = discussion of the reviews [56]. We analyzed the (1) title, (2) objective, (3) method, (4) theories, (5) results, and (6) future research directions.



**Figure 1.** Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). \* Registration includes 2 reviews of sustainability accounting in the public sector.

Finally, the metasynthesis focused on examining 15 selected article reviews in order to develop an understanding of the current development of studies and the future of sustainability accounting. It was necessary to identify the related topics and categories presented by the authors. Each of these was then identified based on the theoretical meanings attributed to them by the main reference authors.

# 4. Results

# 4.1. Metasynthesis of Review Articles

The fifteen articles that met the eligibility criteria were reviewed at the full-text level to determine precisely whether their characteristics offered homogeneous criteria (sustainability accounting and sustainability reporting), which would make them comparable (Appendix A). Table 1 shows the main identification and retrieval information obtained from the WoS database.

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**Table 1.** Articles included in the metasynthesis.

Authors	Article Title	Source Title	DOI	Publication Year	Citations in WoS Core Collection	WoS Categories
Vysochan, O., et al. [22]	Sustainability Accounting: A Systematic Literature Review and Bibliometric Analysis	Quality-Access to Success	10.47750/QAS/22.185.14	2021	0	Management
Ascani, I., et al. [1]	A Structured Literature Review about the Role of Management Accountants in Sustainability Accounting and Reporting	Sustainability	10.3390/su13042357	2021	4	Environmental Sciences Green Sustainability Science Technology Environmental Studies
Adams, C.A.; Larrinaga, C. [57]	Progress: engaging with organisations in pursuit of improved sustainability accounting and performance	Accounting Auditing & Accountability Journal	10.1108/AAAJ-03-2018-3399	2019	20	Green Sustainability Science Technology Business Finance
Ndemewah, S., et al. [58]	Management accounting research on farms: what is known and what needs knowing?	Journal of Accounting and Organizational Change	10.1108/JAOC-05-2018-0044	2019	8	Business Finance
Trautwein, C. [59]	Sustainability impact assessment of start-ups—Key insights on relevant assessment challenges and approaches based on an inclusive, systematic literature review	Journal of Cleaner Production	10.1016/j.jclepro.2020.125330	2021	1	Environmental Sciences Green Sustainability Science Technology Engineering Environmental
Fiandrino, S.; Tonelli, A. [60]	A Text-Mining Analysis on the Review of the Non-Financial Reporting Directive: Bringing Value Creation for Stakeholders into Accounting	Sustainability	10.3390/su13020763	2021	4	Environmental Sciences Green Sustainability Science Technology Environmental Studies
Kelsall, A. [7]	Ecological Management Accounting-Taking into Account Sustainability, Does Accounting Have Far to Travel?	Sustainability	10.3390/su12218854	2020	0	Environmental Sciences Green Sustainability Science Technology Environmental Studies
Gulluscio C., et al. [4]	Climate Change Accounting and Reporting: A Systematic Literature Review	Sustainability	10.3390/su12135455	2020	6	Environmental Sciences Green Sustainability Science Technology Environmental Studies
Tommasetti, A., et al. [61]	Sustainability Accounting and Reporting in the Public Sector: Towards Public Value Co-Creation?	Sustainability	10.3390/su12051909	2020	6	Environmental Sciences Environmental Studies
Patten, D.M.; Shin, H. [62]	Sustainability Accounting, Management and Policy Journal's contributions to corporate social responsibility disclosure research A review and assessment	Sustainability Accounting Management and Policy Journal	10.1108/SAMPJ-01-2018-0017	2019	16	Green Sustainability Science Technology Environmental Studies Business Finance
Sharma, U.; An, Y. [63]	Accounting and Accountability in Fiji: A Review and Synthesis	Australian Accounting Review	10.1111/auar.12197	2018	2	Business Finance
Buyukozkan, G.; Karabulut, Y. [64]	Sustainability performance evaluation: Literature review and future directions	Journal of Environmental Management	10.1016/j.jenvman.2018.03.064	2018	73	Environmental Sciences
Imoniana, J., et al. [28]	A review of sustainability accounting for emission reduction credit and compliance with emission rules in Brazil: A discourse analysis	Journal of Cleaner Production	10.1016/j.jclepro.2017.11.217	2018	6	Environmental Sciences. Green Sustainability Science Technology Engineering Environmental
Onat, N., et al. [14]	Systems Thinking for Life Cycle Sustainability Assessment: A Review of Recent Developments, Applications, and Future Perspectives	Sustainability	10.3390/su9050706	2017	112	Environmental Sciences Green Sustainability Science Technology Environmental Studies
Farooq, M.B.; de Villiers, C. [5]	The market for sustainability assurance services A comprehensive literature review and future avenues for research	Pacific Accounting Review	10.1108/PAR-10-2016-0093	2017	39	Business Finance

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The first analytical approximation in relation to the 15 reviews that were part of the present study is the number of articles published in the sustainability accounting area and all their associated terms. The number of terms has increased significantly in the academic world [1,22,28,57]. The fifteen review articles analyzed were published from 2017 to 2021. However, when examining the publications that were used as primary sources in these fifteen reviews, there was one document from 1964 [54], and this is the oldest indirect document involved in our review. Furthermore, the countries with publications related to the study topic are as follows: the United Kingdom, which leads the list, followed by the USA, Australia, Germany, Italy, and Spain [22].

Table 2 shows that the journals in which these articles were published are *Sustainability* (6), *Journal of Cleaner Production* (2), *Accounting Auditing & Accountability Journal* (1), *Australian Accounting Review* (1), *Journal of Accounting and Organizational Change* (1), *Journal of Environmental Management* (1), *Pacific Accounting Review* (1), *Quality-Access to Success* (1), and *Sustainability Accounting Management and Policy Journal* (1). A high concentration of articles was indexed in the following Web of Science categories: Environmental Sciences and Green Sustainability Science Technology (9), Environmental Sciences (9), Environmental Studies (7), Business Finance (5), and Engineering Environmental (2). The most frequently cited reviews are (citations in parentheses) those conducted by Onat et al. [14] (112), Buyukozkan and Karabulut [60] (73), and Farooq and Villiers [5] (39).

**Table 2.** Primary sources in the systematic reviews studied.

Authors	Article Title	Primary Sources
Vysochan, O, et al. [22]	Sustainability Accounting: A Systematic Literature Review and Bibliometric Analysis	WoS and Scopus
Ascani, I, et al. [1]	A Structured Literature Review about the Role of Management Accountants in Sustainability Accounting and Reporting Sustainability impact assessment of	Google Scholar
Trautwein, C. [59]	start-ups—Key insights on relevant assessment challenges and approaches based on an inclusive, systematic literature review	EBSCO and Google Scholar
Fiandrino, S.; Tonelli, A. [60]	A Text-Mining Analysis on the Review of the Non-Financial Reporting Directive: Bringing Value Creation for Stakeholders into Accounting	Review of Non-Financial Reporting Directive public consultation
Kelsall, A. [7]	Ecological Management Accounting-Taking into Account Sustainability, Does Accounting Have Far to Travel?	Revistas: Critical Perspectives on Accounting (CPA) and Social and Environmental Accountability Journal (SEAJ)
Gulluscio C, et al. [4]	Climate Change Accounting and Reporting: A Systematic Literature Review	WoS
Tommasetti, A, et al. [61]	Sustainability Accounting and Reporting in the Public Sector: Towards Public Value Co-Creation?	WoS and Scopus
Adams, CA.; Larrinaga, C. [57]	Progress: engaging with organisations in pursuit of improved sustainability accounting and performance	Scopus
Vysochan, O, et al. [22]	Sustainability Accounting: A Systematic Literature Review and Bibliometric Analysis	WoS and Scopus

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Table 2. Cont.

Authors	Article Title	Primary Sources
Ndemewah, S, et al. [58]	Management accounting research on farms: what is known and what needs knowing?	Journals: Agric. Econ. Res. Rev., Agric Human Values, Am J Agric Econ., Aust J Agric Resour Econ., China Agric. Econ. Rev., Econ Dev Cult Change, J. Agric. Appl. Econ., J. Food Distrib. Res., Rev. Agric. Econ., Rev. Mark. Agric. Econ., Account. Bus. Res., Eur. Account. Rev., Aust. Account. Rev., J. Account., J. Account. Manag. Inf. Syst., J. Account. Organ. Chang., J. Appl. Account. Res., J. of Appl. Manage. Account. Res., Manag. Account. Res., Qual. Res. Account. Manag., Agric. Finance Rev., J. Financ. Manage. and Anal., J Qual Maint Eng., Int. J. Sci. Res. Publ., Qual. Res. Organ. Manag., and Afr Dev Rev.
Patten, DM.; Shin, H. [62]	Sustainability Accounting, Management and Policy Journal's contributions to corporate social responsibility disclosure research A review and assessment	Revista de Contabilidad, Gestión y Políticas de Sostenibilidad (SAMPJ)
Sharma, U.; An, Y. [63]	Accounting and Accountability in Fiji: A Review and Synthesis	Revistas: Crit. Perspect. Account., Auditing and Accountability Journal, Accounting History, Aust. Account. Rev., J. Account. Organ. ChangPacific Account. Rev., and International Journal of Economics and Accounting
Buyukozkan, G.; Karabulut, Y. [64]	Sustainability performance evaluation: Literature review and future directions	WoS and Scopus
Imoniana, J, et al. [28]	A review of sustainability accounting for emission reduction credit and compliance with emission rules in Brazil: A discourse analysis	JSTOR, EBSCO, PROQUEST, and CAPES-Periodicals
Onat, N, et al. [14]	Systems Thinking for Life Cycle Sustainability Assessment: A Review of Recent Developments, Applications, and Future Perspectives	Scopus
Farooq, MB.; de Villiers, C. [5]	The market for sustainability assurance services A comprehensive literature review and future avenues for research	Google Scholar

Another result that stands out in this review is that, among the 15 reviews under study, 2 reviews were focused on sustainability accounting in the public sector [61,63]. In terms of the research methods, systematic literature reviews, structured literature reviews, systematic literature reviews [1,4,7,14,55,57–59,64], bibliometric analyses [22], textual mining analyses [61], content analyses [63], or discourse analyses [28] were used.

The primary sources used by the authors of the 15 reviews (case studies) are listed in Table 2.

In relation to the keywords, the research reveals the diversity of the terms or synonyms used by researchers to refer to the sustainability accounting topic, resulting in 22 keywords related to the topic, with few repeated words, as detailed in Table 3 below.

These articles present a variety of synonyms used by researchers in relation to the topic; the analysis categories identified are discussed below.

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**Table 3.** Keyword relationships.

Keyword	Occurrences	Keyword	Occurrences
Reports on Sustainability	1	Non-Financial Information Directive	1
Social Responsibility	1	Disclosure of Non-Financial	1
Management Accountants	1	Information Sustainability Assurance	1
Accountants	1	Accounting	1
<b>Emissions Reduction Credit</b>	1	Ecological	1
Standards	1	Environmental	1
Sustainability Accounting (SA)	1	Sustainability Development	1
Public Sector	1	Life Cycle Sustainability Assessment	1
Co-Creation of Value	1	Sustainability	1
Climate Change	1	Sustainability Accounting	3
Accountability	1	Sustainability Reports	3

# 4.2. Sustainability Accounting Concept Interpretation

Sustainability accounting, or sustainability reporting, involves the treatment of business transactions, considering economic, environmental, and social factors in order to protect the interests of society, with subsequent disclosure in non-financial reports or sustainability reports [1,7,22,28].

In order to address the challenges related to sustainability accounting, it is essential to develop a common language to harmonize tools and methods [14], given that the boundaries of sustainability accounting research are not firmly defined [57]. Different terms, such as sustainability accounting, environmental accounting [7], sustainability reporting [1], non-financial reporting [22], social performance, social disclosure, and accountability [61], are recognized. Some scientific productions relate sustainability accounting to sustainability development, sustainability practices, and the sustainability development goals (SDGs). Since 1976, accounting academics have been engaged in debates, and these debates are behind the creation of the SDGs and their implementation [65].

According to Hopper [25], the important areas discussed are accountability for human rights, climate change mitigation, ensuring decent work, increasing accountability, democratic civil society participation, and greater and more equal partnership with stakeholders and developing countries in order to address their needs. Corporate sustainability strategies require organizations to make consistent decisions that bring their values in line with the sustainability development goals through the efficient allocation of their resources, such as people, land, equipment, and financial assets [66]. This situation has had results, as SDG 13 (Climate action) is one of the most analyzed sustainability development goals in the academic literature in relation to sustainability accounting, as well as SDGs 5 (Gender equality), 6 (Clean water and sanitation), 14 (Life below water), and 15 (Life on land) [67], which are related to accounting and human rights. However, in scientific research, less attention has been devoted to auditing, governance, strategic management control, and performance measurement, which are elements directly related to the triple bottom line in organizations [35,62].

Most sustainability development initiatives tend to focus on environmental and social aspects, although Ascani et al. [1] propose seven categories coinciding with the Brundtland Report [68] around the sustainability definition: three simple categories (environmental, social, and economic), three paired categories (environmental–social, environmental–economic, and social–economic), and one category that intersects them all (environmental–social–economic), with the latter being the category most used in studies to define sustainability. To understand the evolution of these categories, the sustainability accounting subdivisions are discussed below.

#### 4.3. Sustainability Accounting Subdivisions

The findings allowed for the identification of the following subdivisions, which integrate sustainability accounting at present:

Environmental management accounting: This addresses concerns about the impact that organizations have on environmental issues [57]. It highlights water accounting, ac-

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counting, auditing, and carbon reporting [28]. In this type of accounting, information on the costs and benefits of mitigation strategies, such as emission reductions involving energy savings, is recorded [4]. In this regard, there is the Sustainability Accounting of Emission Reduction Credit, which presents confusions in the accounting of carbon emission reduction credits both in theory and in practice because of the lack of standardization [28]. Environmental management accounting is referred to as environmental accounting, which is itself a synonym for ecological accounting, although this term is distinct and does not cover many of the ecological challenges [7]. Another subdivision is defined as green accounting, which is analogous to conventional accounting, differing in the price estimations of goods and services using cost/benefit techniques instead of direct observations [69,70]. All of this is within the sustainability consumption framework, which recognizes a relationship between global climate change and the reduction of human impact on the environment [71].

Social accounting: This is related to economic inequality. It has action strategies, which describe the production process, the distribution, and the use of goods and services within a society [4]. It has its origin in sociology and allows for an understanding of corporate behaviors and decision-making processes in organizations [72]. Social accounting includes social responsibility accounting; total impact accounting; socioeconomic accounting; social indicator accounting; and public accounting [22]. In public accounting or national accounting, it measures macroeconomic phenomena through the description of supply and demand, considering statistical–analytical derivations. Its types and social categories and the results of its actions are highlighted [73].

# 4.4. Sustainability Accounting in Accountant Education

The theoretical and practical implications in the research conducted by Gulluscio et al. [4] unveil the need for an in-depth intervention by accounting practitioners and academics in sustainability accounting and its respective sustainability reports. Accountants and managers should be taught the importance of sustainability for both the profession and society at large [23]. Cho et al. [74] found that an appropriate approach that can be used to integrate sustainability development premises into accounting education is to include the topics as programmatic content in the specialty subject curricula.

# 4.5. Sustainability Reports

Sustainability reports, or integrated reports of financial and non-financial information, and corporate sustainability reports originate from the management attempts in favor of corporate social responsibility practices [60] since the 1970s. In 1997, the Global Reporting Initiative (GRI) was introduced with the aim of improving the quality, rigor, and usefulness of sustainability reporting. GRI provided certified tools in order to contribute to data collection and report preparation [4,6,75]. The United Nations Environment Programme (UNEP) and the non-governmental organization the Coalition for Environmentally Responsible Economies (CERES) are responsible for this initiative, which discloses information on companies or organizations related to emissions, economics, market, indirect economic impact and procurement, energy, employment, and compliance [28]. The International Financial Reporting Standards (IFRS) on sustainability reporting include risk assessments and the risk management of financial and non-financial issues in conjunction with stakeholder relations to address inclusive measures and mechanisms in order to assess decision making [46].

The International Integrated Reporting Council (IIRC) is responsible for integrated reporting (IR), a report aimed primarily at investors, focusing on internal management [6]. Its purpose is to present a close link between the financial performance of a company or organization and the economic, environmental, and social contexts in which it operates through clearly written, understandable, and accessible information [76]. The Sustainability Accounting Standards Board (SASB), which is responsible for corporate reporting on environmental, social, and governance (ESG) issues, helps companies to create long-term value [77]. Finally, the Sustainability Stock Exchange (SSE) initiative is presented [78].

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The credibility of sustainability reporting is obtained through sustainability assurance [79]. In their research, Farooq and De Villiers [5] explain that there are factors that drive sustainability assurance, highlighting among them organization size; media pressure; and, from the internal side, financial indicators with mixed results. However, the authors highlight some inhibiting factors for sustainability assurance, such as the high cost, no added value, the lack of external regulatory pressure, and the increased exposure to litigation. An additional element that contributes to the determination of the credibility of sustainability reports is materiality [6], which aims to enhance the relevance of sustainability reports for stakeholders [80]. Materiality is important because companies have the duty to identify, prioritize, and disclose information [81] related to the transactions that they consider material. Finally, there is the Sustainability Performance Assessment, a tool based on performance indicators that demonstrate the economic, social, and environmental results of an organization [64].

# 4.6. The Future of Sustainability Accounting

Future studies should discuss the value of generally applicable theories and include problem-focused research. Some cases are carbon accounting, water accounting, and human rights accounting [57]. This type of review contributes directly to environmental and social accounting and could even support and encourage the creation of an independent ecological accounting field [7], providing research on a management accounting system to improve sustainability in productive sectors that depend on changes in ecosystems and the natural environment [58].

Prospects for future research are related to the need for the further study of all theoretical and practical aspects of sustainability reporting, determining the composition of financial and non-financial indicators to be disclosed, and the justification of the methods to be used in order to determine individual indicators and costing [22]. According to Gulluscio et al. [4], attention should be paid to the concrete effects produced by practices related to the sustainability performance of companies, linking the importance of understanding sustainability reports and their impacts to management and policy issues [62]. In sustainability assurance, studies that investigate sustainability engagement from the initial phase through to the disclosure of an assurance statement are needed [5].

Regarding sustainability reporting, research has been proposed on GRI-SASB (2021), a joint project whose purpose is to explain the similarities and differences in reporting based on GRI and SASB standards, as well as research about the criteria governing regulatory agencies in relation to the effective control of environmental accounting and sustainability reports [28].

Finally, another direction for future research is sustainability accounting in the public sector. This recommendation is in the framework of the research conducted by Tommasetti et al. [61] in which there was little evidence of a relationship between the co-creation of public value and sustainability accounting practices.

### 5. Discussion

The present systematic review analyzes the concept of sustainability accounting through previous studies, with the aims of (1) understanding this topic in the academic literature without focusing on a specific target, such as the previous contributions of the role of management accounting to accounting or sustainability reporting [1], and (2) presenting the current status and suggestions for future research, e.g., that on climate action (SDG 13) [4] or on the market for sustainability assurance (SA) services [5]. The analyzed publications allow for the study of the common aspects among the mentioned reviews (e.g., interpretation of the concept of sustainability accounting and sustainability reporting), as not all topics evaluated in the articles on sustainability accounting are determinant [61], which is due to the lack of clear and uniform guidelines grouping the work of companies or organizations in the field of sustainability development.

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Regarding the interpretation of the concept of sustainability accounting at present, the review articles analyzed above define it as the treatment of business transactions, considering economic, environmental, and social factors, with subsequent disclosure in non-financial reports or sustainability reports [1,28]; this information is presented in the publications of the countries in the United Kingdom, followed by the United States, Australia, Germany, Italy, and Spain [22]. This result agrees with the results found by Ascani et al. [1], who point out that, in Europe, countries such as France, Spain, Germany, and the United Kingdom are the most explored geographical areas in the field of sustainability accounting. However, they point out that China and the United States contribute little to this field of research in relation to the high environmental and social impacts of their economies. Brazil, Indonesia, and Poland, as countries where sustainability-related issues are disclosed, make up a smaller proportion [57].

This review introduces the premise of the existence of a single type of sustainability accounting, which, in turn, addresses different subdivisions related to the activities carried out by companies, such as social and environmental accounting. Thus, it is not correct to speak of environmental accounting [57], water accounting, and carbon accounting [28], as sustainability accounting revolves around ambiguous terms of sustainability [7].

The same situation occurs with so-called social accounting [22]. In fact, it is sustainability accounting that, in a standardized and predictable way, records the calculations of the social value provided to different stakeholders and to society in general and, consequently, maximizes the total value created [62]. Social accounting allows, through a standardized and scientifically based process, for the identification and the analysis of the needs and perceptions of stakeholders, generating social sustainability indicators for organizations [63,73].

Sustainability reports were also addressed in our review, and, according to Martínez-Ferrero, J, et al. [79], the credibility of sustainability reports is obtained through sustainability assurance. However, criticisms about the ability of these reports to promote sustainability development within organizations and to make their sustainability performance more accountable and transparent are evident [82]. The present study contributes to this field of research by showing that, to date, the organizations in charge of the quality, rigor, and usefulness of sustainability reports are in charge of the GRI-SASB project, whose objective is to explain the similarities and differences in the reports presented based on GRI and SASB standards. This project will allow for the unification of criteria when presenting sustainability reports generated by sustainability accounting.

#### 6. Conclusions

This review article, in an effort to analyze the sustainability accounting concept used in previous studies, based on articles published in journals indexed in WoS, in a review process adjusted to the PRISMA protocol, distinguishes a set of fifteen articles, approximately 4.5% of the original records identified, as shown in Figure 1.

The research methods used in the 15 reviews analyzed (see Table 1) allowed for a broad coverage of the criteria (sustainability accounting and sustainability reporting), identifying a variety of synonyms used by researchers in relation to the topic.

The results obtained permitted the interpretation of the sustainability accounting concept and sustainability reporting, subdividing accounting into environmental and social accounting. Likewise, when analyzing the 15 systematic reviews, the importance of accountants and company managers in financial reporting, which incorporates non-financial information or sustainability reports, is highlighted, thus demonstrating the economic, social, and environmental impacts that companies or organizations have on society.

As for the limitations, these are determined by the selection of the original review articles, which was limited to the WoS JCR indexes (SSCI, SCI-EXPANDED, and ESCI); the selection was made with the purpose of reviewing reviews with a high level of scientific

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rigor, guaranteeing that the theoretical construction identified contributes to providing a reliable understanding of sustainability accounting and reporting.

Finally, for future research directions, the proposals made by the authors of the systematic reviews are recognized. Among them, the concrete effects produced by the practices related to the corporate sustainability performance are highlighted, linking the importance of understanding sustainability reports to the sustainability performance of companies.

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# Appendix A

The Appendix shows the digital object identifiers (DOIs) for the fifteen articles selected for metasynthesis: DO = ((10.47750/QAS/22.185.14 OR 10.3390/su13042357 OR 10.1108/AAAJ-03-2018-3399 OR 10.1016/j.jclepro.2017.11.217 OR 10.3390/su12051909 OR 10.3390/su12135455 OR 10.1111/auar.12197 OR 10.1108/SAMPJ-01-2018-0017 OR 10.3390/su13020763 OR 10.1108/PAR-10-2016-0093 OR 10.1016/j.jclepro.2020.125330 OR 10.3390/su12218854 OR 10.1108/JAOC-05-2018-0044 OR 10.3390/su9050706 OR 10.1016/j.jclepro.2021.803.064)).

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