

Unveiling Trends in Sustainability Accounting: A Bibliometric and Systematic Literature Review

Michael Hani Sutanto¹

Lusy^{2*},

¹ Faculty of Economics, Universitas Katolik Darma Cendika

^{2*} Faculty of Economics, Universitas Katolik Darma Cendika

e-mail: 1michael.sutanto@student.ukdc.ac.id, 2margaretha.hulda@ukdc.ac.id *

Corresponding Author = Margaretha.hulda@ukdc.ac.id

Abstract

This research aims to analyze the opportunities for research on sustainability accounting in the future research trends with a bibliometric approach to the 30 most cited articles from 2020 to 2024, identifying Sustainable Development as the dominant topic with coverage of 15% of the entire dataset, followed by Sustainability and Environmental Management. Based on legitimacy, stakeholder and life cycle theories, this research shows that sustainability trends focus on global issues, but are limited by the number of articles and lack of contextual analysis in certain sectors. Suggestions for future research include expanding datasets, multi-method approaches, industry-specific analysis, as well as developing theory-based research models to explore issues such as Artificial Intelligence, circular economy, and sustainability reporting. These findings provide strategic insights for identifying future exploration opportunities.

Keywords : Sustainability accounting; Bibliometrics; Systematic Literature Review; future research.

INTRODUCTION

Sustainability Accounting is a transformation process in which the company's accounting system changes its focus from traditional accounting to accounting that focuses on environmental, social and economic information components and their impact on business ventures (Ramadhan, 2023). Sustainability accounting does not only focus on financial aspects, but also considers the broader impact of business activities on the environment and society by taking into account economic, social and environmental aspects during the measurement, reporting and decision-making processes (Adrina and Pohan, 2024). Sustainability accounting creates a balance between economic, social and ecological that must be maintained by wisely using natural resources and reducing unnecessary risks (Gil-Marin et al., 2022). Sustainability accounting emerged as a response to concerns in the business world regarding environmental and social issues, because conventional accounting cannot measure qualitative activities such as; the impact of the company's business activities on the social community and environment, the company's relationship with customers, strong commitment and motivation from employees and only focuses on financial issues, so this is considered inadequate in assessing the company's overall performance (Idawati and Hanifah, 2022).

Sustainability accounting is experiencing an increasing need significant concerns caused by stakeholders and the community regarding ESG (Environmental, Social and Governance) aspects in decision making investment decisions thereby encouraging companies to be more transparent to the community and to stakeholders which is

followed by scarcity limited resources and increasing consumer demand for Sustainable products force companies to adapt (Apriliani et al., 2024). One of the aspects considered in the assessment by stakeholders is the importance of environmental aspects, where the sustainability accounting system serves as a special environmental assessment system to demonstrate roles and functions specifically aimed at assessing impacts and organization's contribution to various aspects of sustainability, such as social dimensions, ecological and economic (Dao and Phan, 2023). That's what drives the role accountants to take part as information providers as well responsible for supporting the competitive advantage of competitors so that can attract investor interest and make long-term business decisions companies by considering ESG aspects (Adhariani, 2022).

Every company that implements sustainability accounting can find out the development of ups and downs in company profits; can identify potential risks and develop effective mitigation strategies; encourage companies to develop more innovative and sustainable products and services, so as to open new market opportunities; improve reputation in the eyes of the public, investors, customers and stakeholders; have a competitive advantage in the long term because consumers are increasingly aware of the importance of sustainability and choose products and services from responsible companies (Arifin and Sebrina, 2022). This research aims to analyze the opportunities for research on sustainability accounting in the future. Based on the explanation outlined above, the researcher is interested in exploring sustainability accounting in more depth with the title "Bibliometric Analysis and Systematic Literature Review on Sustainability Accounting". Researchers analyzed international articles originating from the Scopus database by referring to the keyword Sustainability Accounting over a 4-year period starting from 2020 to 2024. A total of 204 articles were used in this research. Limitations in this research lie in the article.

LITERATURE REVIEW AND DEVELOPMENT OF A HYPOTHESIS

The theories that will be presented below will review theoretical developments over time and the interrelationship between companies and their environment, such as Corporate Social Responsibility (CSR). The company provides comprehensive information regarding social and environmental impacts arising from business operations. CSR emerged as a company's response to its business responsibility to serve society by complying with policies, making decisions, or following actions that are in line with social values and community goals (Tjahjadi et al., 2024 : 17). The presence of CSR is closely related to the company's need to remain connected with its environment, which underlines the importance of CSR practices in the business world, which at that time is still being questioned by many business parties. (Chang et al., 2017), Stakeholder Theory Stakeholder needs are not just operational tasks but are important requirements that must be met with commitment. The stakeholder concept is often associated with the way companies organize and prioritize stakeholders in corporate decision-making through governance mechanisms (Ozdemir et al., 2023). Stakeholder theory emerged as a response to the fact that giving company attention to stakeholders (shareholders, customers, creditors, employees, suppliers, distributors, and society) is not just optional but has become a necessity that must be managed wisely (Mahajan et al., 2023).

Corporate Sustainability (CS) emphasizes the importance of companies in seeking effectiveness by meeting stakeholder needs. The emergence of corporate sustainability theory as a response to explain how companies implement and carry out development concepts in more detail (Aranda-Usón et al., 2020). To maintain the continuity of the

company, it must focus on efforts to eradicate poverty, sustainable production transformation, responsible consumption, and better ecosystem protection (Scarpellini, 2022). Corporate sustainability theory emphasizes the complementary relationship between natural resources and economic resources and encourages companies to become more open and responsible to stakeholders by offering a framework for disclosing important information regarding the company's survival (Oliveira et al., 2024). Green Economy (GE) Not only focusing on financial profits but also paying attention to social welfare and a sustainable environment. Green economics seeks to achieve economic growth that does not only focus on monetary profits but also pays attention to social welfare and a sustainable environment (Tan et al., 2022). Green economics is a transitional economic system that leads to effective handling and prevention that cannot be separated from growth and development, including processes and products that are environmentally friendly and save natural resources (Escriva-Bou et al., 2020). Green economics is an effort to develop technology and equipment that reduces air pollution and greenhouse gases, monitors climate change, and supports resource conservation that considers Green economy is an economic activity that can reduce environmental risks and provide additional health benefits (Tjahjadi et al., 2024: 82). Green economics involves various types of goods and products being produced in an environmentally friendly way, such as high-tech medicines and necessities for households, with the aim of improving living standards and modernizing production (Chen and Ma, 2021).

RESEARCH METHOD

The research object in this study is sustainability accounting analyzed from articles across business sectors. The approach used in this research is mixed method, using secondary data obtained from Scopus with Bibliometric analysis is used to process quantitative data using R Studio software and systematic literature reviews are used by researchers to analyze qualitative data. Researchers use PCC (Population: Sustainability Accounting, Concept: Research opportunities, Context: Future) research protocol as the basis and reference SLR technique in processing qualitative data. Total There were 204 articles used in this research. This research uses a non-probability technique, namely purposive sampling. This method involves researchers in determining the sample based certain evaluations or standards in accordance with the research objectives (Waruwu, 2024).

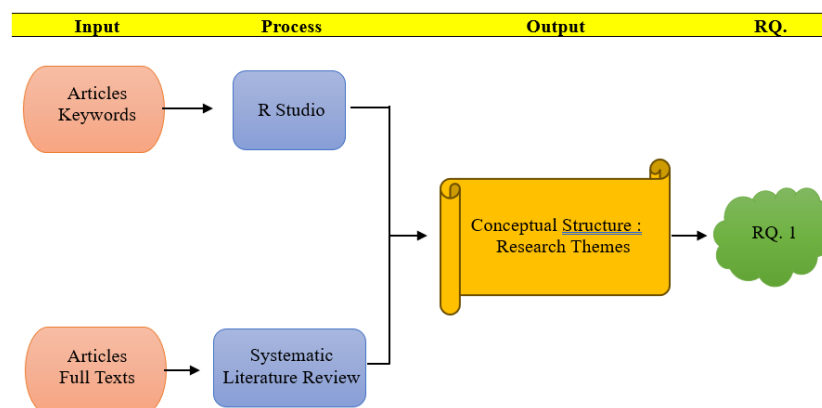


Figure 1.
Data Collection Techniques
 (Source : processed by researchers, 2024)

RESULTS AND DISCUSSION

A. R Studio Data Processing Results

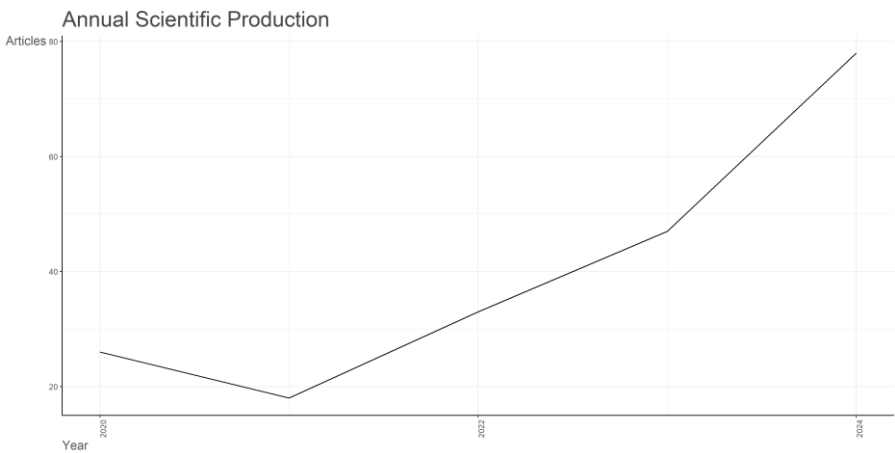


Figure 2.
Annual Scientific Production
(Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. The decrease in the number of article publications in 2021 was caused by several external factors, such as changes in research policy, the impact of the pandemic (there are restrictions on space for researchers) or a reduction in scientific activities.
2. Increases since 2022 reflect significant growth in research activity or increased interest in a particular field of study.
3. A significant increase in 2024 indicates that efficiency peaks driven by resource availability, international collaboration and topic relevance are on the rise.

Based on the description that has been presented, it can be concluded that the graph shows the dynamics of the annual production and publication of scientific articles, from an initial decline to a sharp increase, this reflects how the research situation can change rapidly and scientific activity can be influenced by external and internal factors.

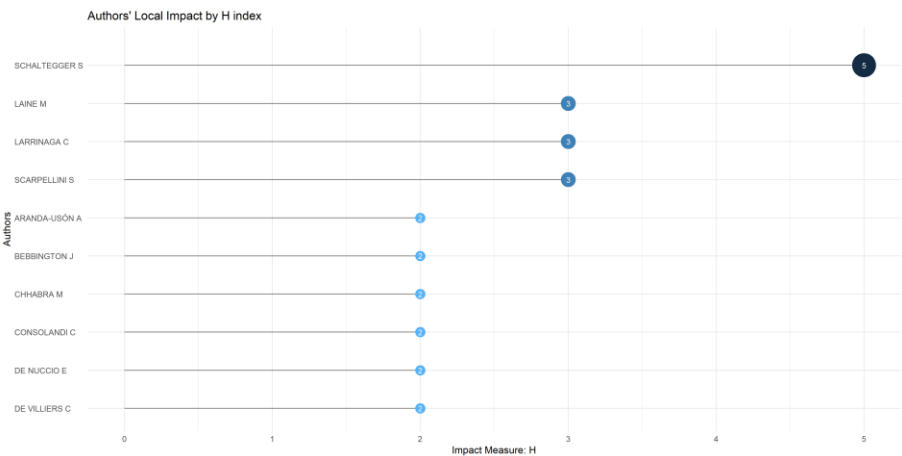


Figure 3.
Author's Local Impact by H-indeks
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Schaltegger S dominates with the greatest citation impact, indicating that his work is highly influential in the academic community studied.
2. Laine M, Larrinaga C and Scarpellini S also show high levels of productivity and relevance, although not as high as Schaltegger S.
3. Authors with an H-index of 2 still contribute to the research field but have a lower citation impact, which is due to limited research coverage or a limited number of publications.

Based on the description presented above, this graph provides insight into the relative contribution and impact of authors in the academic community. Authors with a high H-index, such as Schaltegger S, are the main reference or references in further research or collaboration, while authors with a moderate H-index also have an important role in supporting research in this field.

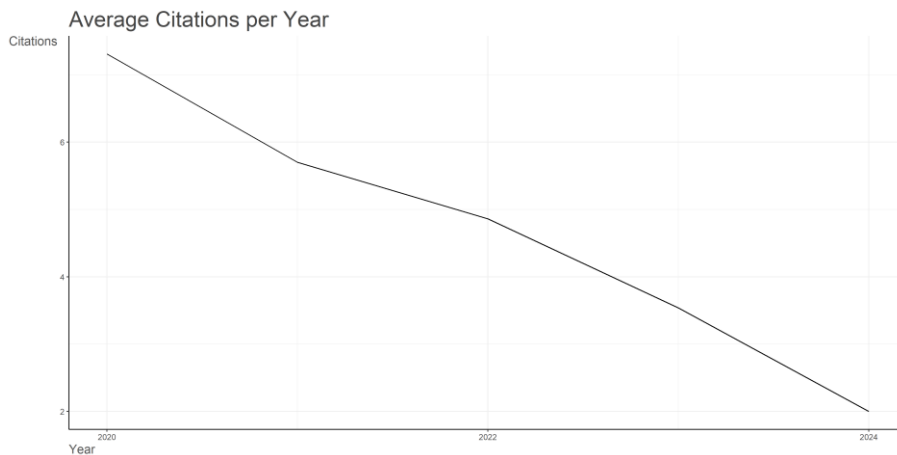


Figure 4.
Average Citations per Year
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. The decrease in average citations that occurred was due to several factors, namely, an increase in the number of articles published (as can be seen from the annual scientific production graph), so that citations may be spread across more articles, the period of publication of articles in newer years (2023-2024) may not have had enough time to receive many citations and the topical relevance of articles published in recent years may be less interesting than articles published in earlier years.
2. Articles published in 2020 tended to have taken longer to accumulate citations, resulting in a higher average than articles published in later years.

Based on the description presented above, the graph shows a downward trend in average citations per article from 2020 to 2024, reflecting the impact of the time of citation accumulation, an increase in the number of articles, or changes in the relevance of research topics. Researchers may consider focusing research on more relevant or strategic topics to increase citations in the future.

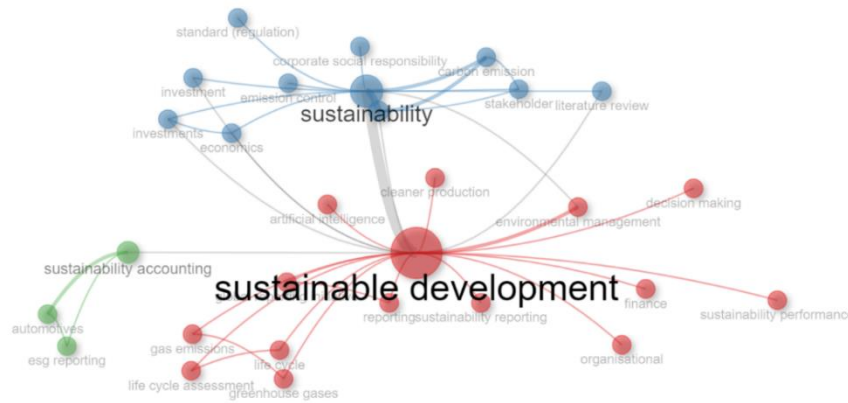
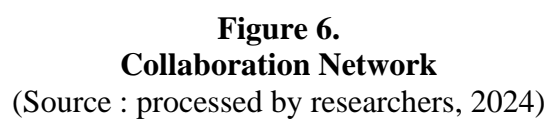


Figure 5.
Co-occurrence Network
(Source : processed by researchers, 2024)

The main findings in the figure above show that:

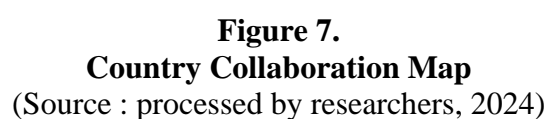
1. Sustainable development and sustainability are the main centers of this research because this topic connects various themes such as reporting, environmental management, carbon emissions and financial decisions.
2. Key words such as CSR, finance and life cycle assessment show the importance of a multidisciplinary approach in sustainability research.
3. The differences seen in the green cluster show that this research covers various dimensions of sustainability, from technical (carbon emissions, life cycle) to strategic (decision making, ESG reporting) issues.

Based on the description presented above, it illustrates the close relationship between the main themes and sub-themes in sustainability research, which reflects the diversity of research focuses in this field. This information illustrates the relationship between CSR studies and company performance, a systematic literature review helps identify the relationship between CSR variables and company financial performance, which is useful for understanding how the theme of sustainability is integrated in various economic, social and environmental aspects (Calderon-Monge and Ribeiro-Soriano, 2024).



1. Authors like Schaltegger S are central to major networks, indicating that they are research leaders or key figures who are often part of collaborations.
2. Different clusters reflect sub-communities within the study, which may focus on specific topics or regions.
3. Authors with small nodes and fewer connections may represent fewer individual contributions or collaborations in this community.

Country Collaboration Map



The main findings in the figure above show that:

1. Collaboration centers between countries such as the United States, England and Germany are central collaboration centers, so this makes them major partners in international research.
2. There are strong ties between the United States and countries on the European continent, indicating that research often involves cross-Atlantic collaboration or what could be called transatlantic collaboration.
3. Countries with collaboration tend to be fewer, such as several countries in Asia or Africa that have the potential to become targets for expanding further collaboration in the future.

Based on the description of the points above, it can be concluded that having a map showing international collaboration between countries based on geographic connections can provide insight into patterns of international collaboration in research, showing the most active countries and the strongest cross-country relationships, which is useful for identifying potential partners for academic collaboration, understanding patterns of international engagement in specific research, as well as encouraging new collaborations with less connected countries.

Country Scientific Production

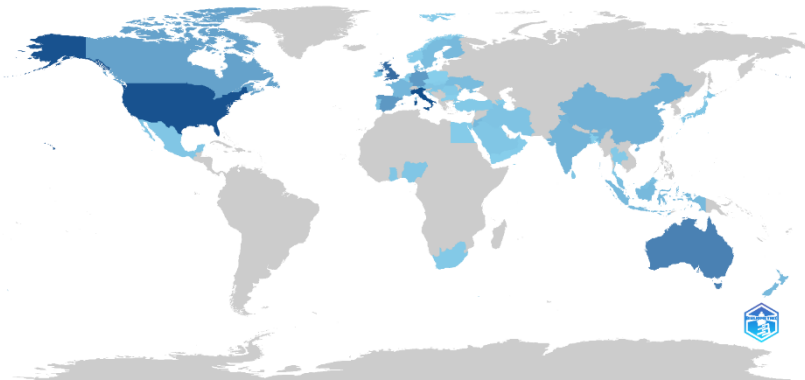


Figure 8.
Country Collaboration Map
(Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. United States and European countries dominate scientific production globally, reflecting strong research infrastructure and large investments in science.
2. Asian countries such as India, China and Indonesia show an increasing contribution and reflect the role of Asian countries in developing in the global scientific community.
3. Countries in Africa and Latin America tend to have smaller contributions but have opportunities that reflect the potential to increase research capacity in the future.

Based on the description presented above, it can be concluded that the scientific production map provides insight into the geographical distribution of scientific contributions throughout the world, although it is more focused on developed and

developing countries. The information is useful for identifying global research centers, encouraging international collaboration between high and low contributing countries, understanding research trends based on geographic distribution. This may provide motivation for further investment in research in countries where contributions tend to be smaller.

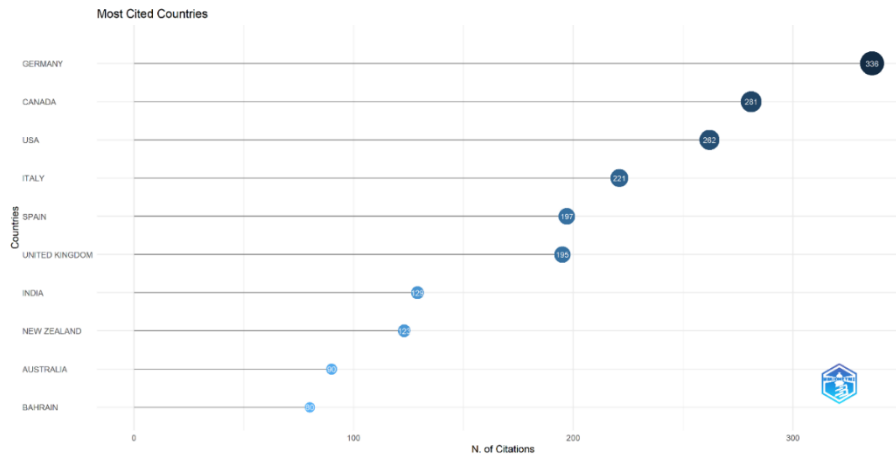


Figure 9.
Most Cited Countries
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Publications from Germany and Canada these countries have had a great impact, reflecting the high quality of research and relevance of topics of widespread interest.
2. Countries such as the United States, Italy, Spain, and the United Kingdom show that the region is still a major research center with a large global impact.
3. India and New Zealand contribute significantly, but the level of intensity is lower than in western countries.
4. Countries like Bahrain have far fewer citations, indicating potential to improve the quality and impact of their publications.

Based on the description presented above, it can be concluded that Figure 4.8 reflects the geographical distribution of research impact based on the number of citations. This is useful for identifying and collaborating with countries that have a significant impact as potential partners, analyzing research and publication trends from various countries so that article publications are accepted at the global level and encouraging research development in countries with lower contributions to increase global impact.

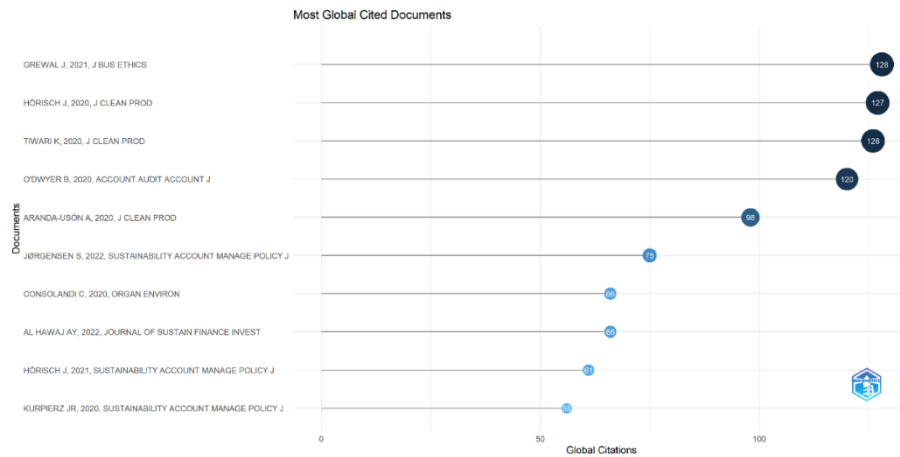


Figure 10.
Most Global Cited Documents
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. The main topics that dominate citations and receive attention are the journals J BUS ETHICS and J CLEAN PROD. This shows that articles published in this journal tend to have a large impact on the academic community.
2. Authors such as Grewal J and Hörisch J have made significant contributions in publishing their scientific work, which often becomes a reference for other research.
3. Articles published earlier, such as in 2020, have had a longer time to receive citations, which may be why they dominate this list.

Based on the description above, it can be concluded that the existing information can be used to identify primary documents as key references in research, understand research trends and focus, especially topics that are considered most relevant and select journals with high citation impact for future publications.

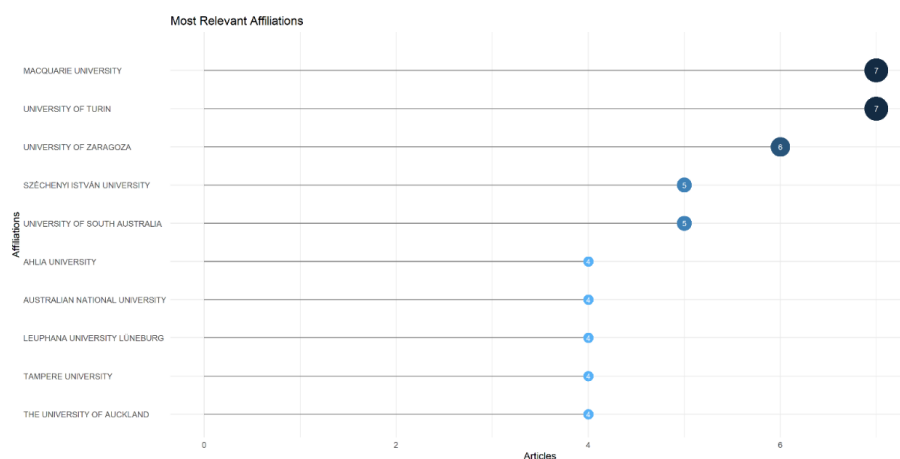


Figure 11.
Most Relevant Affiliations
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Macquarie University and the University of Turin are key players in research in this area, with significant article contributions and making them key institutions in inter-institutional affiliations.
2. The geographic spread includes Europe, Australia and the Middle East, indicating the global nature of this research.
3. The University of Zaragoza, Széchenyi István University and the University of South Australia are high-level institutions that can become strategic partners for future academic collaboration.
4. Ahlia University, Australian National University, Leuphana University Lüneburg, Tampere University and The University of Auckland are institutions with a moderate level of contribution, with 4 to 5 articles indicating relevant activities but with lower intensity than the top institutions.

Based on the description above, it can be concluded that this information is useful for identifying institutions with the greatest contribution as potential partners for research collaboration, analyzing the geographical distribution of institutional contributions in the academic community, encouraging greater participation from institutions that have the potential to increase their contribution.

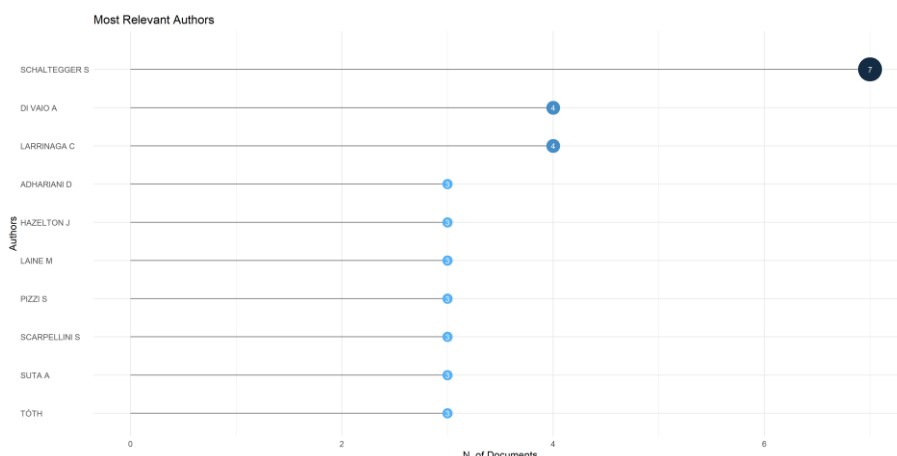


Figure 12.
Most Relevant Authors
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Schaltegger S is the main figure who is most influential in writing scientific papers by publishing a total of 7 documents from the dataset, and his works are also a reference for further research.
2. Di Vaio A and Larrinaga C are influential authors with a moderate level in writing scientific papers by publishing 4 documents each from the entire dataset.
3. Adhariani D, Hazelton J, Laine M, Pizzi S, Scarpellini S, Suta A and Tóth are medium-level authors who have each published 3 documents.

Based on the description presented above, it can be concluded that this graph shows that Schaltegger S is the writer with the highest productivity in the field concerned, followed

by Di-Vaio A and Larrinaga C. This information can be used to identify important writers in the literature. can serve as a main reference for further research.

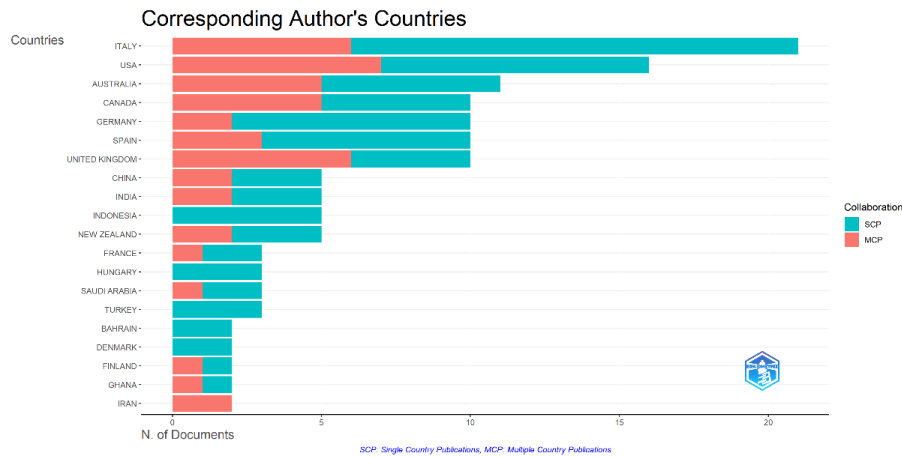


Figure 13.
Most Relevant Countries
(Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Italy is the country with the highest number of corresponding authors' countries with a total of 22 documents which also ranks first in the entire dataset. The majority of published documents are dominated by domestic researchers, followed by the United States which ranks second highest with a total of 17 documents with a balanced contribution and ending with Australia in third highest with a total of 12 documents dominated by domestic authors.
2. Canada, Germany, Spain and the UK are countries with a level of international collaboration with a total of 10 documents each, where the documents are published through the collaboration of authors from various countries.
3. Indonesia's participation in the graph with contributions from domestic writers being more dominant than contributions from foreign writers.
4. Hungary, Bahrain, Ghana and Iran are countries with lower contributions but still show dynamics in the contribution of domestic and foreign writers.

Based on the description presented above, it can be concluded that this graph shows how countries contribute to research and academic publications with an emphasis on domestic and international cooperation. Italy, the US and Australia are the top contributing countries, while MCP has a crucial role in countries such as Canada and Germany. This information can be used to analyze international cooperation patterns and describe countries that are active research centers.

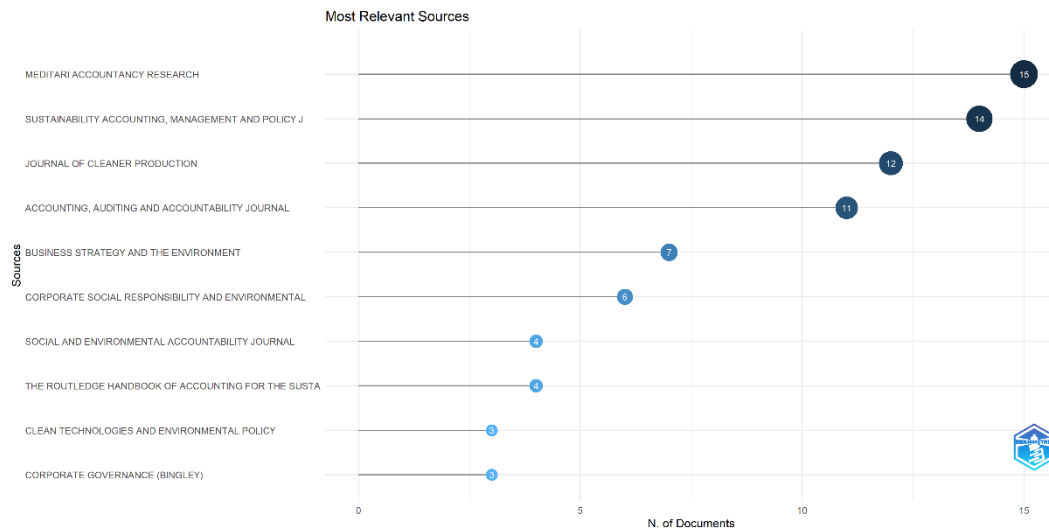


Figure 14.
Most Relevant Sources
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Trending topics:
 - Meditari Accountancy Research, Sustainability Accounting, Management and Policy Journal, and Journal of Cleaner Production are the most relevant sources and journals with the highest publications, which makes them the most influential sources with a total of 15, 14 and 12 documents, respectively.
2. The emergence of new sources:
 - Accounting, Auditing and Accountability Journal and Business Strategy and the Environment are sources with a medium level of contribution, each publishing 11 and 7 documents, followed by sources Corporate Social Responsibility and Environmental and Social and Environmental Accountability Journal, which show relatively lower contributions compared to the previous sources, with 4 documents each.
3. Development of relevant sources:
 - Clean Technologies and Environmental Policy and Corporate Governance (Bingley) is the source with the lowest level, indicating that this source is experiencing gradual development.

Based on the explanation presented above, information regarding the sources most commonly used or contributing to research in a particular field is available. It can be concluded that Meditari Accountancy Research, Sustainability Accounting, Management and Policy Journal, and Journal of Cleaner Production are the three main sources that are most relevant. This information is useful for researchers in determining leading journals as references or publication targets for further research.

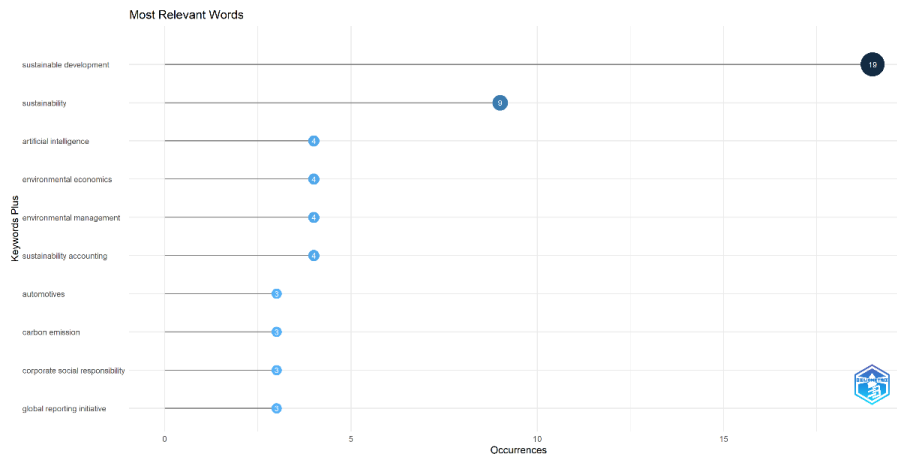


Figure 15.
Most Relevant Word
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Tiwari K and Grewal J are the authors with the highest number of global citations of 115 and 112 documents, making them the most influential authors whose works have been widely read, quoted, referenced and considered relevant by other researchers in the same field.
2. Aranda-Usón A, Jørgensen S, Al Hawaj AY are authors with a fairly high number of global citations, namely 91, 65, 61 documents respectively, this indicates that the work has made a significant contribution and is considered high quality and reliable for support the development of science.
3. Hörisch J, Consolandi C and Kurpierz JR are writers with medium citation levels, namely 56, 55 and 50 citations respectively, which shows good achievements and shows that their works have been recognized and contributed to this field of study.

Based on the explanation provided above, the graph indicates that publications in leading journals such as the Journal of Cleaner Production, Journal of Business Ethics and Accounting, Auditing, and Accountability Journal have a significant influence in the international scientific community. Tiwari K, 2020 is the document that has the greatest contribution in terms of citations which show its importance in trending research topics. This information is useful for identifying important articles that can become main references in similar research.

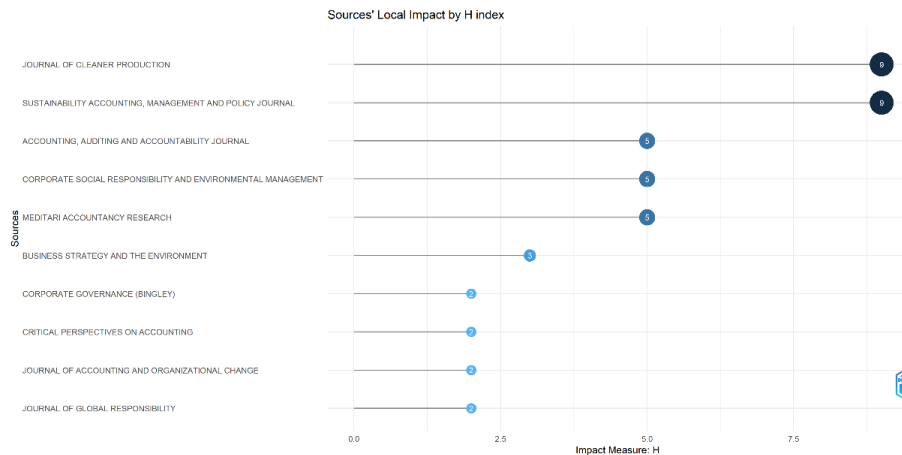


Figure 16.
Source's Local Impact by H Indeks
 (Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Journal of Cleaner Production and Sustainability Accounting, Management and Policy Journal are journals with the highest H index, indicating that researchers with the most cited publications tend to have greater influence at the local level. This can happen because of their extensive network, access to resources or strong reputation and the higher the H-index level, the greater the influence of the research.
2. Accounting, Auditing and Accountability Journal, Corporate Social Responsibility and Environmental Management and Meditari Accountancy Research are sources with a medium level of influence, indicating that journals with a medium level of influence tend to be lower, indicating a lack of relevance to topics or problems faced by local communities. and the quality of published research may be inconsistent, making it difficult for readers to rely on the resulting findings.
3. Business Strategy and the Environment, Corporate Governance (Bingley), Critical Perspectives on Accounting, Journal of Accounting and Organizational Change and Journal of Global Responsibility are journals with a low level of influence indicating that the level of collaboration between authors is still at a weak stage and journal publication may not be easily accessible to the wider community, especially local communities who do not have global access or scientific databases.

Based on the description above, this graph indicates leading journals that have a large influence on certain fields based on the H-index measure. Journal of Cleaner Production and Sustainability Accounting, Management and Policy Journal are the two journals that have the highest impact in the measurement which reflects their superiority in the number of publications and citations. This data can provide guidance for researchers in determining the most appropriate and influential journals for study or publication and highlights that researchers with the highest number of publications tend to hold more significant influence locally and form the basis for policies that support research productivity and collaboration between communities.

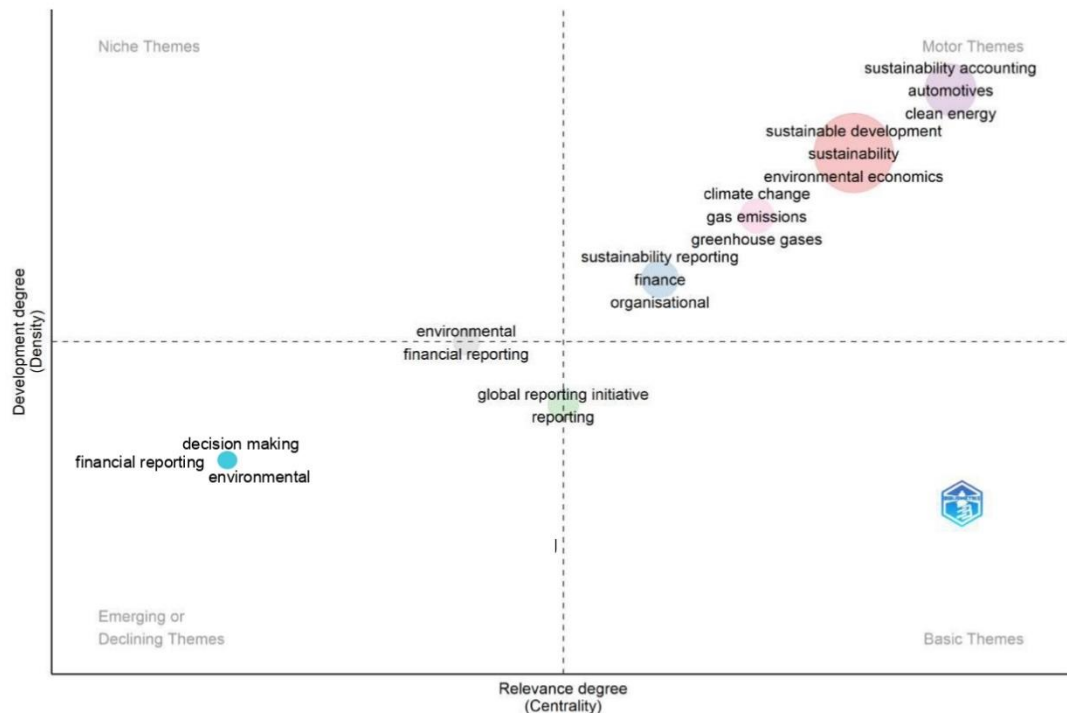


Figure 17.
Thematic Map

(Source : processed by researchers, 2024)

The main findings in the figure above show that:

1. Sustainability accounting, sustainable development and climate change are central themes in the entire quadrant which are interrelated and developing rapidly. This theme is the main focus in studies that have a large impact and is the core of research that has a significant influence on the literature and is a currently popular topic.
2. Financial reporting and global reporting initiatives are themes that are very relevant and often form the basis of research studies, but have not been explored in depth, thus creating opportunities for more in-depth research.
3. Sustainability assessment and decision-making is a research theme that is at a stage of minimal development and has little relevance and shows strong potential, but is currently still less relevant and requires further exploration.

Based on the description presented above, this Thematic Map provides a strategic perspective regarding the position of various themes in research studies. Researchers use this map to find significant and relevant themes, as well as themes that have the potential to be developed further. Key themes such as sustainability accounting and sustainable development are clearly a major focus, while Emerging themes provide opportunities for exploration in future research.

scale than the two main keywords. This shows that the study covers a wide range of approaches and issues related to sustainability.

3. Leadership, Energy Use, Global Reporting Initiative, Decision Making, CSR and Population Growth appear with smaller dimensions, indicating that their frequency tends to be lower and hinting at areas that may not have been fully explored and have the potential to be opportunities for future research.

Based on the description presented above, this world cloud visualization illustrates the main trends and research concerns in the field of sustainability. Terms such as sustainable development and sustainability are key topics, while various other themes provide insight into specific approaches and issues involved in research. This information serves to identify key points and exploration opportunities in the relevant field.

B. SLR Data Processing Results

Table 1
Data processing mapping of the most cited articles

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
1	Tiwari and Khan 2020 India	Sustainability accounting and reporting in the industry 4.0	Triple Bottom Line, Global Reporting Initiative Industry 4.0 Framework	1. Prudent and limited investment to meet triple bottom-line sustainability goals, and sustainability accounting and reporting will always be a barrier.	1. Further research can explore by interviewing groups of respondents to gain a broad perspective	Artificial Intelligence big data and cyber physical systems.
2	Grewal <i>et al</i> 2020 United States	Material Sustainability Information and Stock Price Informativeness	Information Asymmetry Theory, Signaling Theory, Market Efficiency Theory, Behavioral Finance, Corporate Governance	Material sustainability disclosures significantly influence stock price information, especially when moderated by factors such as ESG exposure, institutional ownership performance,.	Exploring the capital market implications of missing data items in sustainability disclosures	Decision Making, Economics Leadership and Kausalitas
3	O'Dwyer and Unerman 2020 Inggris	Shifting the focus of sustainability accounting from impacts to risks and dependencies	Risk management theories, market efficiency theory,	1. TCFD can understand new climate-related scenario planning, both for reporting companies and investors	undertake an academic exploration of the transformational potential of	financial system stability, environmental economics, environmental

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
		s: researching the transformati ve potential of TCFD reporting	Scenario Analysis.	2. By integrating climate risk into company-level risk management, you can mitigate the level of company risk	sustainabilit y reporting	managemen t
4	Hörisch <i>et al</i> 2020 Germany	Integrating stakeholder theory and sustainabilit y accounting: A conceptual synthesis	Stakeholder Theory, Synthesis Theory	1. The development of accounting concepts for sustainability and stakeholders provides a relevant framework in sustainability accounting 2. Stakeholder involvement can increase the relevance and effectiveness of sustainability accounting information 3. Paradigm Change in Accounting from traditional accounting to sustainability accounting	1. Involves collaboration with companies to test the application of sustainabilit y accounting concepts 2. More basic research is needed to understand how stakeholder theory can inform accounting practice.	Proximity, powerless stakeholde rs and bricolage
5	Aranda- Uson <i>et al</i> 2020 Spain	The progressive adoption of a circular economy by businesses for cleaner production: An approach from a regional study in Spain	Stakeholder Theory, Institutional Theory, Dynamic Capabilities Framework, Resource- Based View	1. Most companies engage in basic CE activities and more advanced practices, 2. The importance of involving various stakeholders to contribute to corporate responsibility behavior related to the Circular Economy	1. Explores the interactions between business and local government and the impact of policy on CE adoption at the micro level	Internal process measureme nt, organizatio nal transforma tion, Automotiv es

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
6	Jørgensen <i>et al</i> 2021 Norway	Sustainability reporting and approaches to materiality: tensions and potential resolutions	GRI Theory, Materiality Theory, Stakeholder Theory	1. High need for information among users regarding financially material sustainability issues. 2. Significant Challenges in the Availability of Significant Information on financially material sustainability issues with an average score of 2.97	Exploring research using qualitative methods in sustainable reporting practices	Dynamic materiality, Merging indicators, Decision making.
7	Al-Hawaj and Buallay 2022 United States	A worldwide sectorial analysis of sustainability reporting and its impact on firm performance	Agency Theory, Agency Theory, Political-Economy Theory	1. ESG disclosure has a significant positive impact on ROA in various sectors, including energy, manufacturing, retail and tourism with a p value > than 5% 2. There is a positive relationship between ESG disclosure and ROE in several sectors with an average of 12%,	1. Further research is recommended to expand the research sample. 2. using the latest data according to the conditions occurring at that time	ESG, cross-sectorial research,
8	Hörisch 2020 Germany	The relation of COVID-19 to the UN sustainable development goals: implications for sustainability accounting, management	Social Solidarity Theory, Long-term Thinking, Sustainability Accounting Theory, Crisis Management Theory	1. The COVID-19 crisis is not only related to the SDGs but is part of research in the field of sustainable development 2. The pandemic has a serious impact on food security that could double	Examine the long-term impact of de-globalization and economic decline on the SDGs,	Transparency and government accountability

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
		and policy research		and is very worrying for SDG2.		
9	Consolandi <i>et al</i> 2020 England	Material ESG Outcomes and SDG Externalities : Evaluating the Health Care Sector's Contribution to the SDGs	Sustainability Accounting Standards Board Theory, SDGs Theory	1. ESG Performance and SDG Contribution have a significant correlation, because companies with better ESG practices tend to have a more positive impact on the SDGs. 2. handling material issues can lead to improved financial performance and SDGs.	1. Future research can use a variety of research approaches kualitatif and kuantitatif. 2. Expanding the sample to obtain diverse perspectives in the health sector.	<i>Independence, Credibility, Tradeoffs and Timely reporting</i>
10	Di-Vaio and Varriale 2020 Italy	SDGs and airport sustainable performance : Evidence from Italy on organisational, accounting and reporting practices through financial and non-financial disclosure	Content Analysis Theory, Sustainability Disclosure Framework, Stakeholder Theory	1. Airports such as Milan and Venice show initiative in implementing SDGs programs through their reports. 2. The need for better accounting and reporting practices, such as the use of the Sustainable Balanced Scorecard, to improve sustainability performance in the airport sector. 3. The importance of partnerships and community involvement in achieving sustainable development in the airport sector.	1. Future research can use a larger sample to broaden the sustainability perspective 2. This research only relies on annual reports and sustainability reports published by airports 3. Additional indicators are needed to fully assess sustainability performance	SDGs, Automotives, Carbon Emission

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
					in the airport sector.	
11	Kurpierz and Smith 2020 United States	The greenwashing triangle: adapting tools from fraud to improve CSR reporting	Fraud Triangle Theory, Agency Theory, Greenwashing Typology Behavioral Accounting	1. It is important for the Fraud Triangle to understand greenwashing practices, because pressure to report positive information often encourages companies to engage in greenwashing 2. Information asymmetry between companies and stakeholders is a key factor that facilitates greenwashing,.	1. Aandya Batasan Kontekstual yang berfokus pada objek di Amerika utara sehingga temuan penelitian tidak dapat digeneralisasi pada semua regional 2. There are no articles/extensive empirical data to support and validate the model and framework	Audit, Assurance, Internal controls, Life Cycle
12	Schaltegger 2021 Germany	Sustainability learnings from the COVID-19 crisis. Opportunities for resilient industry and business development	Corporate Sustainability Theory, Sustainability Accounting Theory, Product-Service Systems Theory, Industrial Transformation Theory	1. The need to address the origins of epidemics, especially zoonoses, which arise from human interactions with ecosystems 2. Prohibit the trade in wild animals. Protecting virgin ecosystems. Changing meat production practices.	1. Future research can use strong empirical data to generalize the findings to a broader context.	Population Growth, invasive species and virtual tourism
13	Scarpellini 2021	Social impacts of a circular business	Circular Economy Business Model,	1. The level of awareness among companies and consumers	1. The need for research articles originating	Circular business, Environmental and

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
	Spain	model: An approach from a sustainability accounting and reporting perspective	Sustainability Accounting Theory, Interdisciplinary Theory, sustainable development	regarding the social aspects of CE is still low. 2. CE can contribute to the creation of new jobs through innovation and development of sustainable business models and have a positive impact on public health 3. Younger respondents tend to be more optimistic about the positive impacts of CE compared to older respondents	from the social sciences. 2. There remain challenges in effectively measuring and reporting the social impact of CE, which can hinder understanding of social contributions	Management
14	Ascani <i>et al</i> 2021 Italy	A Structured Literature Review about the Role of Management Accountants in Sustainability Accounting and Reporting	Sustainability Accounting Theory, Stakeholder theory, Legitimacy Theory, Information Systems Theory	1. Management accountants are not only involved in collecting and reporting financial data, but also in providing relevant information for decision making . 2. The importance of effective communication between management accountants and stakeholders to increase transparency and accountability	1. There is a need to integrate sustainability information into accounting systems including the development of metrics and indicators 2. Expand the time span to gain a broader perspective 3. Focuses on research on one business sector.	Public organizations and non-profit organizations, Artificial Intelligence, financial disclosures
15	Madison and Schiehl	The Effect of Financial Materiality on ESG	Financial Materiality Theory, Industry	1. When financial materiality is applied, a company's ESG	1. Further research can expand the time span	Carbon Emission,

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
	2021 Canada	Performance Assessment	Classification Theory, ESG Valuation Theory	performance score experiences significant changes 2. Issues in the environmental pillar contribute significantly to changes in scores and rankings.	and research data	Sustainable Industry
16	Hsiao <i>et al</i> 2022 Australia	A review and synthesis of contemporary sustainability accounting research and the development of a research agenda	Economic Theory, Social and Political Theory, Management Theory, Psychological Theory	1. Organizations are increasingly realizing the importance of transparency and accountability in sustainability reports . 2. Sustainability accounting practices have a positive effect on organizational sustainability performance.	1. More focused on expanding research on social accounting and sustainable development .	Leadership , Life Cycle, financial disclosures
17	Malik <i>et al</i> 2021 Australia	Managing sustainability using financial accounting data: The value of input-output analysis	Teori Input-Output, Triple Bottom Line, Life Cycle Assessment	1. Most of the impact of greenhouse gas emissions and air consumption comes from suppliers in the wood and paper industry 2. Overall, printing companies show higher greenhouse gas intensity values	1. More focus on improving data quality and resolution at the company level Consider consistency and adequacy in the context of sustainability	Environmental Economics ,Environmental Management,Automotives, Carbon Emission, modern slavery and supply inputs
18	Cong <i>et al</i> 2020 United States	Mandated Greenhouse Gas Emissions and Required	Legitimacy Theory, Voluntary Disclosure Theory, Stakeholder Theory	1. Companies with higher emissions tend to make wider disclosures to reduce the negative impact of environmental	1. Conduct further studies with a more random sample of SEC	Green-washing, legitimacy theory, cap-and-trade allowances

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
		SEC Climate Change		performance 2. There are differences in the reliability of the reported data, which may affect the accuracy of the information 3. Company size has a positive effect on sustainability disclosure	registrants required to report GHG emissions to gain a different perspective	,Economic s,Leadership, Life Cycle, Population Growth
19	Trautwein 2021 Germany	Sustainability impact assessment of start-ups e Key insights on relevant assessment challenges and approaches based on an inclusive, systematic literature review	Triple Bottom Line, Sustainability Impact Assessment, Business Model Framework, Iterative Measurement Approaches	1. Of the 23 start-up companies, seven were designed specifically for start-ups, while the others did not differentiate between start-ups and more stable companies.. 2. Challenges include limited resources and organizational structure	1. Further research requires user-friendly and IT-supported tools and applications to help start-ups assess and report sustainability activities.	Artificial Intelligence, financial disclosures ,Environmental Economic and Management
20	Consolandi <i>et al</i> 2022 United States	How material is a material issue? Stock returns and the financial relevance and financial intensity of ESG materiality	Capital Asset Pricing Model, Fama-French Three-Factor Model, Gini Indeks	1.Performance on material ESG issues has a consistent impact on stock performance. 2. Lower materiality concentrations have fewer material issues but are more financially relevant 3. The Gini Index portfolio outperforms the market capitalization-based portfolio	1.More consideration of ESG momentum and concentration of material issues as criteria in portfolio management .	Credibility, Automotives, financial disclosures
21	Pizzi <i>et al</i> 2023	Material sustainability	Materiality Theory, Corporate	1. The proportion of independent boards, the existence of a	1. Developing alternative	Artificial Intelligence,

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
	Italy	y information and reporting standards. Exploring the differences between GRI and SASB	Governance Theory, Multinomial Logistic Regression Model	CSR committee, and environmental, social and governance scores have a significant influence on the type of company reporting 2. Companies that adopt GRI have better CSR committees and better management	proxies for evaluating sustainability information transparency . 3. Further consider alternative institutional arrangements to evaluate the robustness of the SASB analysis.	Environmental Economics and Management, Double Materiality , Alternative Proxies:
22	Cho <i>et al</i> 2020 Canada	Towards a better understanding of sustainability accounting and management research and teaching in North America: a look at the community	Legitimacy Theory, Suchman's Legitimacy Typology, Accounting Research Paradigm	1. The majority of academics involved in this research spend between 10% and 50% of their time on teaching, and around 31% or more of their time on research . 2. The personal experiences and views of academics, which are often overlooked in North American academic literature.	1. Conduct a broader quantitative survey to increase understanding of the experiences of sustainability academics. 2. Collect anonymous feedback from experts regarding future challenges in sustainability accounting and management	Decision Making, Economics , Leadership and Life Cycle
23	Eng <i>et al</i> 2022 United States	Comparing the informativeness of sustainability disclosures versus	Institutional Theory, Stakeholder Theory, Cognitive Dissonance Theory	1. Disclosures prepared based on SASB standards have a positive and significant impact on company value. 2. More informative disclosures, those	1. The need for harmonization of standards for reporting sustainability	Financial disclosures ,Automotives, Life Cycle, Population Growth.

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
		ESG disclosure ratings		include specific and relevant metrics, have proven to be more effective in increasing market value. 3. There is a positive relationship between ESG scores and company market value.	1. Expand the dataset to involve a larger scope. 2. Expand the dataset to involve a larger scope.	
24	Asiaei et al 2021 Malaysia and Canada	Corporate social responsibility and sustainability performance measurement systems: implications for organizational performance	Stakeholder theory, contingency theory, sustainable performance measurement theory	1. Companies that implement good CSR practices tend to have better performance in various dimensions 2. Companies that are active in CSR not only improve financial performance, but also pay attention to sustainability aspects	1. It is important for organizations to utilize sustainability performance measurements in CSR practices. 2. Emphasizes the organization's ability to manage sustainability performance measurements that contribute to improved performance.	Decision Making, Economics, Leadership, financial disclosures
25	Tang et al 2020 China	Sustainability accounting of neighborhood metabolism and its applications for urban renewal	Emergy Analysis and Slacks-Based Measure Model	1. Communities C1 and C8 have the best efficiency performance, while the other six communities are inefficient in using renewable resources. 2. The input used	1. Further expand the sample size in research 2. Pay more attention to social factors that influence	Environmental Economics, Environmental Management, Automotive

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
		based on energy analysis and SBM-DEA		has a direct effect on the output produced (residential services and waste).	community metabolism 3. Emphasize strong policies to manage ecological land use	es, Carbon Emission
26	Afolabi <i>et al</i> 2022 England	Harmonization of Sustainability Reporting Regulation: Analysis of a Contested Arena	Arena Concept, Hegemony Theory, Social Interaction Theory	1. GRI, SASB, and IIRC factors have well-planned strategies to maintain their influence and relevance in reporting 2. Interactions between various factors can influence the future direction of regulation, and there is a need to address differences in the approaches taken.	1. Better understand the interactions and strategic decisions of various actors in the sustainability reporting arena, such as GRI, VRF, EFRAG, and IFRS Foundation. 2. Using different approaches, such as interviews with key members of these actors to gain deeper insight.	<i>Leadership and Life Cycle, Environmental Economics and Management</i>
27	Baker <i>et al</i> 2022 Australia	Debating accounting and sustainability: from incompatibility to rapprochement	Transdisciplinary Theory, Transition Management Theory, Pragmatism, Positive Performance Theory	1. The importance of encouraging structural change in accounting and management practices that includes recognition of the problem 2. Increased efficiency in	1. Better understand how structure influences agents in an effort to achieve more sustainable change.	Automotives, Carbon Emission, financial disclosures, Decision Making

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
		in the pursuit of corporate sustainability		sustainability practices is often offset by increased consumption, known as the rebound effect. 3. The need to involve various stakeholders in the change process, including business practitioners	2. the need for optimism and hope in exploring sustainability possibilities and innovations, as well as recognizing the complexity of change required to achieve sustainability goals 3. Using transdisciplinarity, which involves collaboration between various scientific disciplines	
28	De-Villiers <i>et al</i> 2024 New Zealand	How will AI text generation and processing impact sustainability reporting? Critical analysis, a conceptual framework and avenues for future research	Alvesson and Deetz's Critical Analysis Framework, Information Management Theory, Data Quality Theory and Natural Language Processing Stakeholder Perception Theory	1. AI can help organizations manage and analyze large data, thereby enabling the delivery of more comprehensive and timely information 2. The use of AI in sustainability reporting can raise privacy and security issues, especially related to protecting sensitive information for organizations and stakeholders 4. Stakeholder perceptions of reports produced by AI can influence the	1. Further develop a comprehensive framework for the use of AI in non-financial reporting 2. Focus on evaluating the accuracy and reliability of information produced by AI technology, as well as developing methods to reduce bias	Artificial Intelligence, Environmental Economics and Management, Leadership and Life Cycle, Population Growth

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
				acceptance and use of information	and error in the information presented	
29	Marlowe and Clarke 2022 Canada	Carbon Accounting: A Systematic Literature Review and Directions for Future Research	Carbon Accounting Theory, Systems Integration Theory, Narrative Synthesis Theory, Measurement Uncertainty Theory	<p>1. Greenhouse gas (GHG) emission measurement systems are often non-transparent and unreliable, hampering the ability to compare data in the reports presented</p> <p>2. Many organizations do not have effective systems to link emissions data to relevant decision-making processes</p> <p>3. The accounting profession has great potential to contribute to the development of better carbon accounting systems.</p>	<p>1. Integrate standards in carbon accounting</p> <p>2. Emphasize the importance of qualitative research to understand how companies learn to do carbon accounting.</p>	Carbon Emission, financial disclosures, Decision Making, Economics
30	Escriva-Bou <i>et al</i> 2020 United States	Planning for groundwater sustainability accounting for uncertainty and costs: An application to California's Central Valley	Water Balance Theory, Uncertainty and Variability Theory, Sustainable Water Resources Management Theory, Agricultural Economic Theory, Simulation Model Theory	<p>1. There is significant uncertainty in groundwater overdraft estimates. By using the C2VSim and CVHM models.</p> <p>2. By significantly reducing water use, there is a higher chance of ending groundwater overdraft.</p>	<p>1. More consideration of uncertainty in overdraft estimation and use of local data to improve model accuracy.</p> <p>2. Integrate adaptive management that can accommodate inevitable changes and uncertainties</p>	Artificial Intelligence, Life Cycle, Population Growth

No	Name Year Country	Title	Theory	Result	Suggestion	Future research
					in estimates and projections	

CONCLUSIONS, LIMITATIONS, AND SUGGESTIONS (Times New Roman 12)

Conclusions (Times New Roman 12)

1. Artificial Intelligence, Economics and Environmental Management, Automotive, Carbon Emissions, financial disclosure, Decision Making, Economics, Leadership and Life Cycle, Population Growth are words that still have the opportunity to be explored in future research.
2. Sustainable Development and Sustainability are the two keywords that dominate with the highest frequency of appearance in the entire dataset and are the trend or focus in this research.
3. The keyword trend Sustainable Development dominates more than Sustainability because Sustainable Development is a broader concept and is often used in a broader context that includes Sustainability.

Limitations

This research is limited to articles referring to the keyword sustainability accounting with a period span of 2020-2024.

Suggestions for Future Research

1. Next researcher
 - a. Expanding the dataset by including more articles from various relevant journals to get a broader and more comprehensive representation of the latest trends and discussions related to Sustainable Development.
 - b. Analyze implementation in certain industries by focusing more on the influence of Sustainability Accounting or Environmental Management in specific sectors, such as transportation, energy or manufacturing.
 - c. Conduct studies over a longer time period to understand the dynamics of changes in sustainability trends over time.
 - d. Developing a theory-based research model that refers to legitimacy theory and stakeholder theory, to examine the relationship between dominant keyword trends and their impact on the effectiveness of implementing sustainability in the organizational sector.
2. Investors
 - a. Sustainability-oriented reports are taken into consideration by investors to make better investment decisions.
3. Company

- a. Reducing costs associated with environmental and health damage due to pollution, managing potential risks that will occur, gaining competitive advantage, improving reputation and attracting sustainability-oriented investors, thereby creating long-term economic stability.
4. Society
 - a. Increase public awareness about the importance of sustainability and encourage changes in people's behavior in choosing products and services from companies that are responsible for social environmental consequences.
 - b. Improving community welfare includes better access to basic resources such as clean water and safe food.

BIBLIOGRAPHY

- Adhariani, D. (2022). *Akuntansi keberlanjutan: Suatu pengantar*. Universitas Indonesia Publishing.
- Adrina, C. P., & Pohan, H. T. (2024). Pengaruh pengungkapan sustainability report, green accounting, dan ukuran perusahaan terhadap kualitas laporan keuangan. *Jurnal Ekonomi Trisakti*, 4(1), 385-394.
- Apriliani, L., Kadir, K., & Hifni, S. (2024). Sustainability Accounting: Nilai Perusahaan Dan Carbon Emission Disclosure. *Gorontalo Accounting Journal*, 7(1), 91-102.
- Aranda-Usón, A., Portillo-Tarragona, P., Scarpellini, S., & Llana-Macarulla, F. (2020). The progressive adoption of a circular economy by businesses for cleaner production: An approach from a regional study in Spain. *Journal of Cleaner Production*, 247, 119648.
- Arifin, R. S., & Sebrina, N. (2022). Pengaruh Sustainability Report Disclosure terhadap Keinformatifan Laba Akuntansi dengan Kepemilikan Asing sebagai Variabel Moderating. *JURNAL EKSPLORASI AKUNTANSI*, 4(3), 640-659.
- Chang, R. D., Zuo, J., Zhao, Z. Y., Zillante, G., Gan, X. L., & Soebarto, V. (2017). Evolving theories of sustainability and firms: History, future directions and implications for renewable energy research. *Renewable and Sustainable Energy Reviews*, 72, 48-56.
- Chen, Y., & Ma, Y. (2021). Does green investment improve energy firm performance?. *Energy Policy*, 153, 112252.
- Dao, T. T. B., & Phan, M. C. (2023). Stakeholder theory, risk-taking and firm performance. *Corporate Governance: The International Journal of Business in Society*, 23(7), 1623-1647.
- Escriva-Bou, A., Hui, R., Maples, S., Medellín-Azuara, J., Harter, T., & Lund, J. R. (2020). Planning for groundwater sustainability accounting for uncertainty and costs: An application to California's Central Valley. *Journal of environmental management*, 264, 110426.
- Gil-Marin, M., Vega-Munoz, A., Contreras-Barraza, N., Salazar-Sepulveda, G., Vera-Ruiz, S., & Losada, A. V. (2022). Sustainability accounting studies: a metasynthesis. *Sustainability*, 14(15), 9533.
- Idawati, W., & Hanifah, A. N. (2022). Pengaruh board independence, audit committee, dan managerial ownership terhadap sustainability reporting pada ASEAN corporate governance scorecard. *Ultimaccounting Jurnal Ilmu Akuntansi*, 14(2), 312-330.

- Mahajan, R., Lim, W. M., Sareen, M., Kumar, S., & Panwar, R. (2023). Stakeholder theory. *Journal of Business Research*, 166, 114104.
- Oliveira de, U. R., Menezes, R. P., & Fernandes, V. A. (2024). A systematic literature review on corporate sustainability: contributions, barriers, innovations and future possibilities. *Environment, development and sustainability*, 26(2), 3045-3079.
- Ozdemir, S., de Arroyabe, J. C. F., Sena, V., & Gupta, S. (2023). Stakeholder diversity and collaborative innovation: Integrating the resource-based view with stakeholder theory. *Journal of Business Research*, 164, 113955.
- Scarpellini, S. (2022). Social impacts of a circular business model: An approach from a sustainability accounting and reporting perspective. *Corporate Social Responsibility and Environmental Management*, 29(3), 646-656.
- Tan, X., Dong, H., Liu, Y., Su, X., & Li, Z. (2022). Green bonds and corporate performance: a potential way to achieve green recovery. *Renewable Energy*, 200, 59-68.
- Tjahjadi, B., Soewarno, N., Permatasari, I., Harindahyani, S., & Putri, W. H. (2024). Teori-Teori Keberlanjutan.
- Ramadhan, A. R. (2023). The Transformation Of Sharia Accounting In Promoting Sustainability Economic Growth. *Balance: Journal Of Islamic Accounting*, 4(2), 101-124.
- Waruwu, O. (2024). Increasing Students' reading Comprehension Ability On Descriptive Text By Using Language Experience Approach At The Tenth Grade Of Sma Negeri 1 Lahomi. *Ndrumi: Jurnal Ilmu Pendidikan dan Humaniora*, 7(2), 16-26.