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MAPPING SUSTAINABILITY RESEARCH: A MANAGEMENT CONTROL SYSTEMS PERSPECTIVE

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ABSTRACT

This study aims to map the development of scientific literature on Sustainability in Management Control Systems perspective during the period 2020-2025, with a total of 396 articles originating from 214 internationally indexed Scopus journals using a bibliometric approach based on data from Scopus. MCS is a management control system designed to support the effective implementation of sustainability strategies, integrating economic, social, and environmental aspects into business practices. The bibliometric method was chosen to analyze publication trends, collaboration patterns between authors and institutions, and key research themes developing in this field. Data were collected through keyword searches related to MCS and analysed using Bibliometric software in R Studio. The results of the analysis revealed that, although MCS publication productivity has shown fluctuations with a downward trend in recent years, academic interest in this topic remains high, with a significant average citation count. Countries such as China, Australia, and Indonesia are the main contributors to this study, with the level of international collaboration continuing to increase. Keyword findings and thematic maps show the primary focus of research on the relationship between management accounting, management control systems, environmental management, and sustainable development. In addition, issues such as emission control, risk management, and corporate governance are also essential parts of academic discourse related to MCS. This study contributes to clarifying the development trend of MCS science and identifying central themes and potential future research directions. The practical implications of this study can be a reference for companies and policymakers in designing more effective and sustainable control systems. This study also encourages further research development by expanding the database and integrating qualitative approaches to understand MCS implementation in a contextual context.

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INTRODUCTION

In recent decades, sustainability issues have become a major concern for various stakeholders, including governments, investors, consumers, and the wider community (González-Esquivel et al. 2023). Climate change, the exploitation of natural resources, and social inequality are global challenges that urge the business world to focus not only on achieving profit, but also on paying attention to social (people) and environmental (planet) impacts, collectively known as the 3P. In this context, companies are required to adopt management practices that support the achievement of sustainability goals in a holistic and integrated manner (Oyelayo et al. 2025). One approach that has emerged to answer this challenge is the Sustainability and Management Control System, a management control system designed to support the implementation of sustainability strategies effectively (Jaradat et al. 2025).

MCS plays a vital role in encouraging organizations to transform sustainability visions into real actions through planning, performance measurement, reporting, and decision-making processes based on sustainability principles (Tripathi and Bhadauria 2025). In practice, MCS includes various tools such as sustainability-based balanced scorecard, sustainability reporting, non-financial performance indicators, and incentive systems that encourage environmentally and socially friendly behaviour (Sofyana et al. 2022). As external pressure to adopt Environmental, Social, and Governance (ESG) principles increases, the development of MCS becomes increasingly relevant and strategic for companies across sectors (Trong et al. 2023).

Although the concept of MCS is becoming widely known, scientific literature in this field still shows diversity in approaches, terminology, and research scope. Some studies focus on the design and implementation of control systems, while others focus more on the influence of MCS on corporate sustainability performance (Alemu et al. 2025). In addition, scientific publications on MCS are disseminated across various journals and disciplines, including management accounting, sustainability management, corporate governance, and strategic management. This condition creates the need for a comprehensive literature mapping to identify the direction of scientific development, dominant research trends, and the main contributions of authors, institutions, and countries in MCS research (Fonseca Alves et al. 2022).

The bibliometric approach provides a systematic quantitative method for searching and analyzing academic literature in a particular field (Alsmadi et al. 2022), it also allows exploring the terminology of sustainability management control system variables through a review of the MCS and sustainability literature. Through bibliometrics, researchers can measure publication productivity, citations, collaboration networks, and relationships between frequently studied concepts or topics (Meseguer-Sánchez et al. 2021), using Bibliometric R Studio software. Bibliometrics produces a visualization of scientific maps (science mapping) that are useful in understanding research dynamics and identifying gaps or potential for further studies. This study aims to explore and map the development of research related to the Sustainability and Management Control System in the period 2020 to 2025. Through bibliometric analysis of relevant scientific publications, this study is expected to answer several important questions: (1) How has the trend of MCS publications developed over time? (2) Which countries are most influential in this field? (3) What are the main topics and emerging issues in MCS research? And (4) What is the direction and agenda of MCS research in the future?

By producing a comprehensive literature review, this study not only provides academic contributions to enriching the theoretical understanding of MCS but can also serve as a

strategic reference source for practitioners and policymakers seeking to build a management control system aligned with the principles of sustainability. Amidst the increasing demands for socially and environmentally responsible business practices, this research is relevant and urgent to be carried out.

Currently, developing MCS does not discuss sustainability control management, which specifically directs management to manage sustainability actions in a more targeted manner. For example, financial planning to support sustainability implementation or targeted CSR fund control. Sustainability implementation should consider strategic aspects, such as investor interest, managerial aspects, including determining sustainability dimensions, and operational aspects, including implementing specific dimensions that have been established in sustainability. MCS enables sustainability development in all three aspects. Therefore, literature with the keyword sustainability management control system (SMCS) was not found in this study. Based on this idea, it is necessary to initiate a terminology for the Sustainability Management Control System. From this terminology, the concept of Sustainability Management Control System can be developed.

METHOD

This study uses a bibliometric approach to explore and map the development of scientific literature (Nobanee et al. 2021) related to Sustainability in Management Control Systems (MCS) during the period 2020 to 2025. The bibliometric method was chosen because it is able to provide a systematic quantitative analysis of scientific publications, including article growth trends, author collaborations, the most productive institutions, and dominant themes and keywords. Data were collected from the Scopus database using a combination of keywords such as "Sustainability and Management Control System", "Sustainability Control", "Sustainability Performance Measurement", "Environmental Social Governance", and "Control System". Inclusion criteria included scientific articles published in English and relevant to the topic of MCS. The bibliographic data obtained were then analyzed using Bibliometrix in R Studio software, which allows descriptive statistical analysis, thematic grouping, and mapping of relationships between bibliographic elements. To ensure accuracy and relevance, the data cleaning process was carried out manually by verifying the title, abstract, keywords, and journal of each article. This study has limitations because it only uses one main database, namely Scopus, so there may be publications related to MCS that have not been captured in the analysis. Nevertheless, this approach is considered representative enough to provide a comprehensive illustration of the global MCS research landscape and its future development directions.

RESULT AND DISCUSSION

Overview Sample

This section presents an overview of the characteristics of the publication data analyzed in the bibliometric study on the Sustainability and Management Control System (MCS). With the following results:

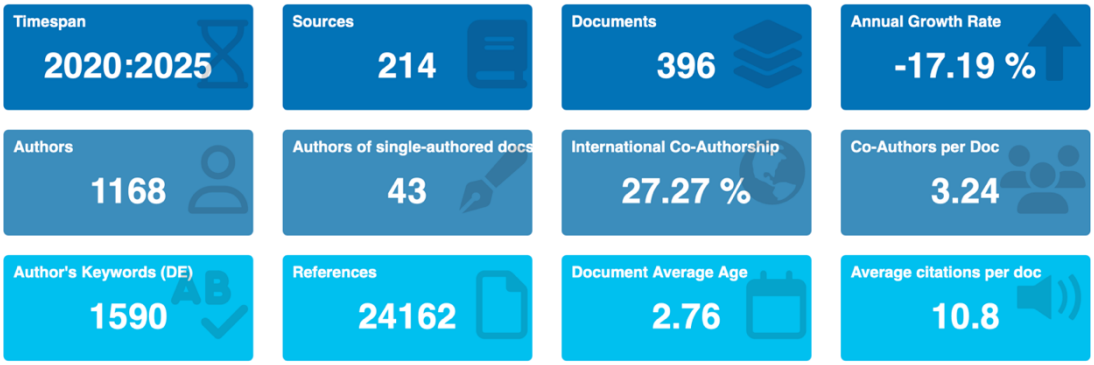

Figure 1. Overview Sample

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 1 presents a bibliometric summary of scientific articles in the period 2020 to 2025. A total of 396 scientific documents were published, involving 1,168 authors and an average of 3.24 authors per document. A total of 43 documents were written by a single author, while international collaboration reached 27.27%. These documents came from 214 journal sources with a total of 24,162 cited references. Although publication productivity has decreased with an annual growth rate of 17.19%, each document received an average of 10.8 citations. The authors used 1,590 keywords, indicating the diversity of topics studied. The average age of the documents was 2.76 years, indicating that most publications are still relatively new and relevant. These findings indicate a strong collaborative trend in research, but are accompanied by a decline in the number of publications on an annual basis.

Annual Scientific Production

This section presents the Annual Scientific Production in research on Sustainability and Management Control System (MCS). With the following results:

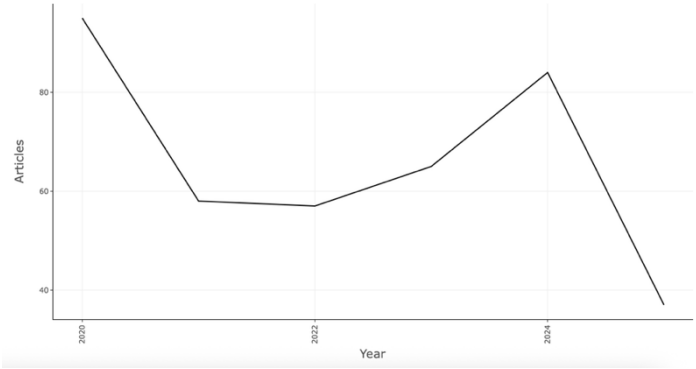

Figure 2. Annual Scientific Production

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 2 shows the trend of the number of articles published each year during the period 2020 to 2025. In 2020, the number of publications was at its highest, but it experienced a sharp decline in 2021 and reached its lowest point in 2022. After that, there was a slight increase in 2023 and a significant spike in 2024. However, 2025 again showed a drastic decline in the number of articles. This fluctuation indicates an unstable dynamic in annual publication productivity, which is also in line with previous data on the negative annual growth rate (-17.19%). This phenomenon may reflect changes in research interests, funding availability, or other external factors such as regulations and publishing policies.

Most Relevant Sources

This section presents the Most Relevant Sources in the research on Sustainability and Management Control System (MCS). With the following results:

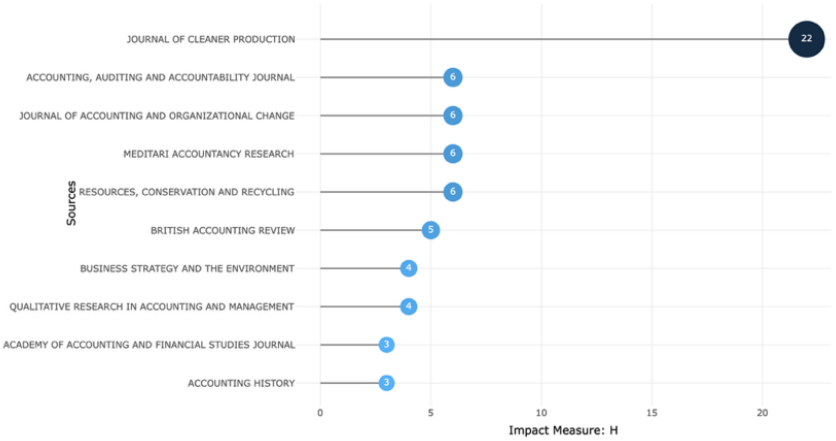

Figure 3. Most Relevant Sources

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 3 shows the impact measure based on the H-index from various sources of scientific journals in the fields of accounting and the environment. The H-index reflects the productivity and citation impact of publications in a particular journal. It can be seen that the Journal of Cleaner Production has the highest H-index value of 22, indicating that this journal is the most influential source in the research reviewed. Several other journals, such as Accounting, Auditing and Accountability Journal, Journal of Accounting and Organizational Change, Meditari Accountancy Research, and Resources, Conservation and Recycling, have an H-index of 6, indicating a significant influence in their related fields. Meanwhile, journals such as Accounting History and Academy of Accounting and Financial Studthe ies Journal have the lowest H-index of 3, reflecting a relatively low citation influence.

Corresponding Author Countries

This section presents Corresponding Author Countries in research on the Sustainability and Management Control System (MCS). With the following results:

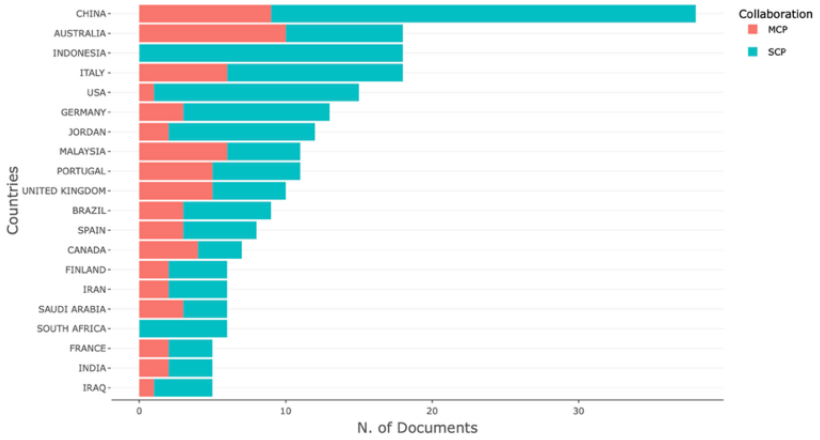

Figure 4. Corresponding Author Countries

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 4 shows the number of scientific documents by country of origin, while distinguishing the types of collaboration involved, namely SCP (Single Country

Publication) and MCP (Multiple Country Publication). The country with the highest contribution is China, with more than 35 documents, dominated by domestic publications (SCP), indicating the dominance of internal research. This is followed by Australia and Indonesia, each with around 20 documents, with a relatively higher proportion of MCP, indicating a greater level of international collaboration. Other countries such as Italy, the United States, and Germany also show significant contributions, with a fairly balanced combination of SCP and MCP. Countries such as Jordan, Malaysia, and Portugal appear to be active in cross-country collaboration, as seen from the striking proportion of MCP. Other countries, such as India, Iraq, and South Africa, are lower in the ranking with fewer documents, but still show participation in the global academic discourse.

Countries Scientific Production

This section presents countries' scientific production in research on the Sustainability and Management Control System (MCS). With the following results:

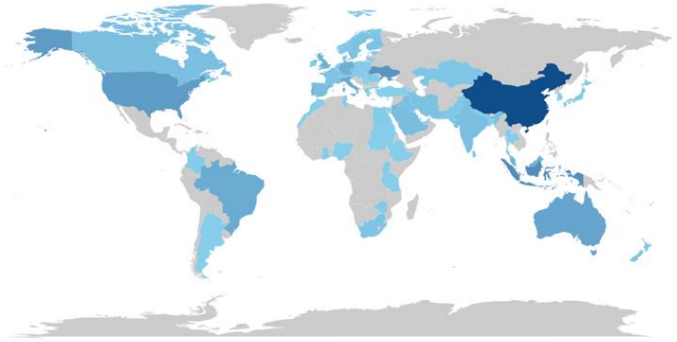

Figure 5. Countries' Scientific Production
Source: R-Packages and Web Interface Biblioshiny (2025)

Figure 5 shows a colored world map depicting the geographical distribution of countries' contributions to scientific publications. The intensity of the blue color reflects the number of documents published by each country; the darker the blue, the higher its contribution to publications. From this visualization, China appears as the country with the most dominant contribution, indicated by dark blue, indicating a very high number of publications. Other countries such as Australia, Indonesia, the United States, Italy, and Germany also appear active, indicated by medium to light blue. The distribution of these contributions covers almost all continents, including Asia, Europe, North America, South America, Africa, and Oceania, indicating that the issues studied in the research have global relevance. This map illustrates that although there is a concentration of contributions in certain countries, research participation is quite evenly distributed internationally. This supports the importance of global collaboration in the development of scientific knowledge across disciplines and geographic regions.

References Spectroscopy

This section presents References to Spectroscopy in research on the Sustainability and Management Control System (MCS). With the following results:

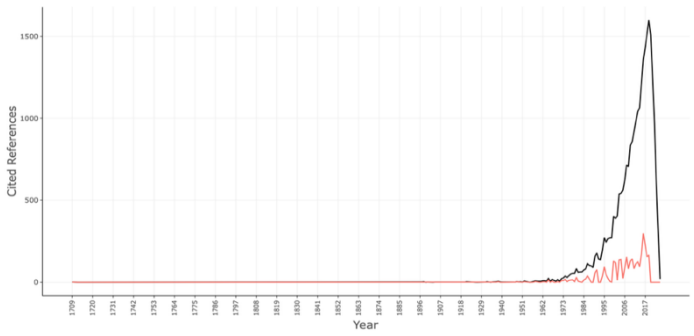

Figure 6. References Spectroscopy

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 7 shows a trend graph of the number of cited references by year of publication, from 1700 to around 2020. The horizontal (X) axis represents the year, while the vertical (Y) axis shows the number of cited references. From this graph, it can be seen that before 1950, the number of cited references was very low and tended to be flat. However, starting around the 1970s, there was a sharp increase in the number of citations, which continued to increase exponentially until reaching a peak around 2016–2018 with more than 1,500 citations per year. After that year, there was a sharp decline, which was caused by time constraints in the process of citing newer documents. The black and red lines likely distinguish two types of references or citation sources (e.g., local vs. international, or articles vs. other documents), both of which show an increasing trend as the production and access of global scientific publications grew. This graph indicates a significant surge in the use of modern scientific literature, indicating a rapid growth in research activity and the importance of recent studies in the field.

Most Frequent Word

This section presents the Most Frequent Words in research on Sustainability and Management Control System (MCS). With the following results:

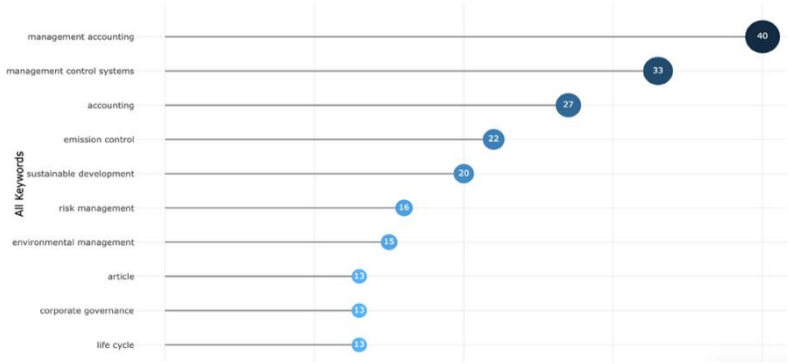

Figure 7. Most Frequent Word

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 6 shows the frequency of occurrence of keywords in the scientific document collection, which illustrates the main focus of the analyzed research. The vertical axis displays the keywords, while the horizontal axis shows the number of occurrences of each keyword. The most frequently occurring keyword is "management accounting" with a frequency of 40 times, indicating that this topic is the main focus of the research reviewed. Followed by "management control systems" (33 times) and "accounting" (27 times), which are also central themes. Other fairly dominant keywords include "emission control" (22 times), "sustainable development" (20 times), and "risk management" (16 times), which show the relationship between managerial accounting and sustainability

issues and environmental impact control. Additional keywords such as "environmental management", "corporate governance", and "life cycle" strengthen the Figure that the research in this document collection highlights the relationship between accounting, environmental management, and corporate governance.

Word Cloud

This section presents Word Cloud in research on Sustainability and Management Control System (MCS). With the following results:

Figure 8. Word Cloud

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 8 shows the frequency of keyword occurrences in the scientific document collection. The size and thickness of the word indicate how often the word appears; the larger and thicker the size, the more frequently the word is used. From this word cloud, it is evident that the most prominent keywords are "management accounting", "management control systems", and "accounting", indicating that these topics are the primary focus of attention in the reviewed literature. Other words, such as "sustainable development", "emission control", "risk management", "environmental management", and "corporate governance" also appear quite large, indicating that environmental issues and corporate governance have a strong relationship with accounting practices and managerial control. Additional words such as "decision making", "life cycle", "performance measurement", and "carbon footprint" indicate a focus on sustainability, efficiency, and the impact of business activities on the environment.

Tree Map

This section presents the Tree Map in the research on the Sustainability and Management Control System (MCS). With the following results:

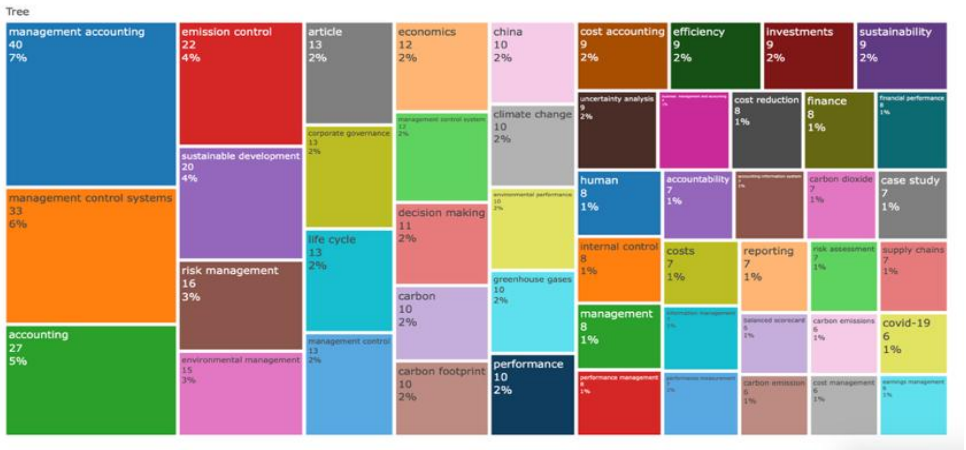

Figure 9. Tree Map

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 9 shows the distribution and frequency of keywords in the scientific document corpus. Each box represents one keyword, with the size of the box reflecting the number of occurrences of the word. Different colors are used to distinguish each topic, while the numbers inside the boxes indicate the number and percentage relative to the total. From this visualization, it can be concluded that the most dominant topic in the literature review is "management accounting" (40 occurrences, 7%), followed by "management control systems" (33 occurrences, 6%) and "accounting" (27 occurrences, 5%). In addition, other prominent keywords are "emission control" (22 occurrences), "sustainable development" (20), and "risk management" (16), indicating a great concern for sustainability issues and environmental impact control in the context of accounting and management. Keywords such as "environmental management", "life cycle", "corporate governance", and "decision making" also show that these topics are closely related and an important part of the research.

Co-occurrence Network

This section presents the Co-occurrence Network in research on the Sustainability and Management Control System (MCS). With the following results:

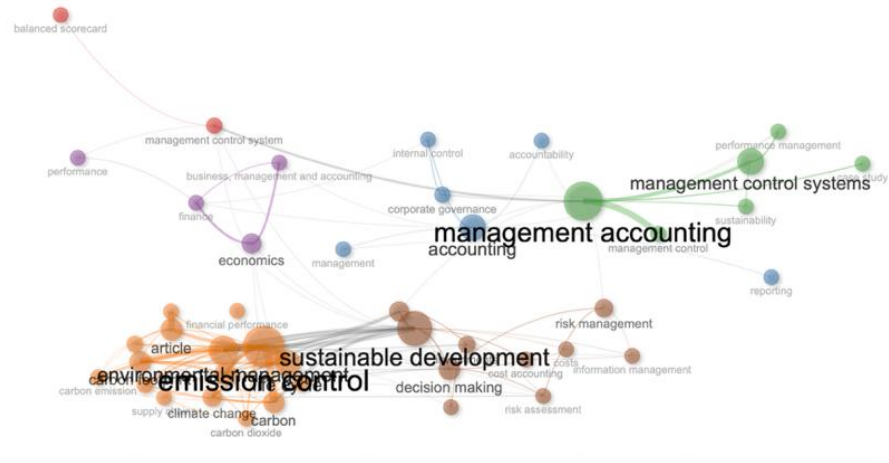

Figure 10. Co-occurrence Network

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 10 shows the keyword co-occurrence network, showing that management accounting and management control systems are the center of the most dominant research topics and are interconnected with various other concepts. These keywords are closely related to themes such as accounting, corporate governance, internal control, and accountability, which indicate a primary focus on control systems, reporting, and organizational governance. In addition, other large clusters emerge that link managerial accounting topics to sustainability and environmental issues, such as sustainable development, emission control, environmental management, climate change, and carbon. This shows that research in this field also discusses a lot about how management accounting and control contribute to the Sustainable Development Goals. On the other hand, economic and performance aspects, marked by keywords such as economics, performance, and finance, form a separate cluster that remains connected to the core of managerial control systems. Overall, this network indicates that research in the realm of management accounting focuses not only on the internal efficiency of organizations, but also on global issues such as sustainability and environmental impact.

Thematic Map

This section presents the Thematic Map in the research on the Sustainability and Management Control System (MCS). With the following results:

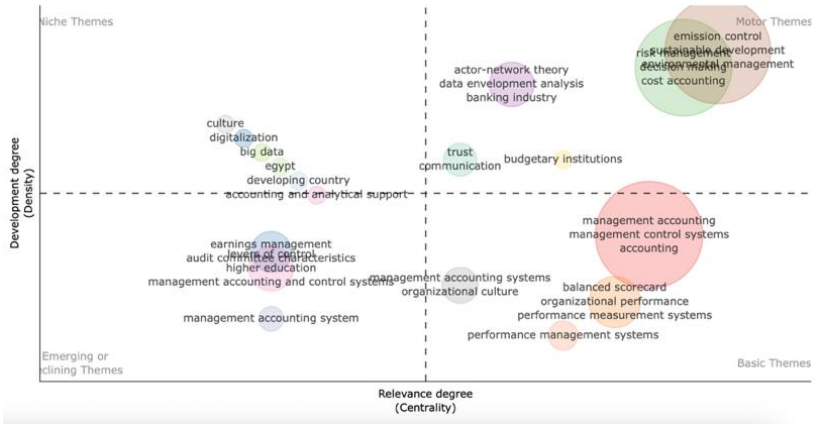

Figure 11. Thematic Map

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 11 shows that research themes in management accounting are divided into four main quadrants based on their level of importance (centrality) and level of development (density). In the upper right quadrant (Motor Themes), there are themes such as emission control, sustainable development, risk management, environmental management, and cost accounting. These themes are conceptually strong and also highly relevant in the research network, indicating that they are the main drivers in this field, reflecting the integration of environmental issues, sustainability, and cost control in the context of managerial accounting. Meanwhile, the lower right quadrant (Basic Themes) is dominated by core themes such as management accounting, management control systems, accounting, organizational performance, and performance measurement systems. These themes have a high level of centrality, but their level of development is relatively moderate, indicating that although they are the main foundation in research, they may be well established and have not experienced significant new theoretical developments.

On the other hand, the upper left quadrant (Niche Themes) contains themes such as culture, digitalization, big data, and developing countries. These themes have high conceptual depth or development but are not yet widely connected to the main theme network, making them the focus of special or contextual studies, such as developing countries. Finally, the lower left quadrant (Emerging or Declining Themes) includes themes such as management accounting systems, audit committee characteristics, and earnings management. These themes have low centrality and density, so they can be categorized as emerging topics or are starting to lose relevance in current research trends.

Countries Collaborating World Map

This section presents the Countries Collaborating World Map in research on the Sustainability and Management Control System (MCS). With the following results:

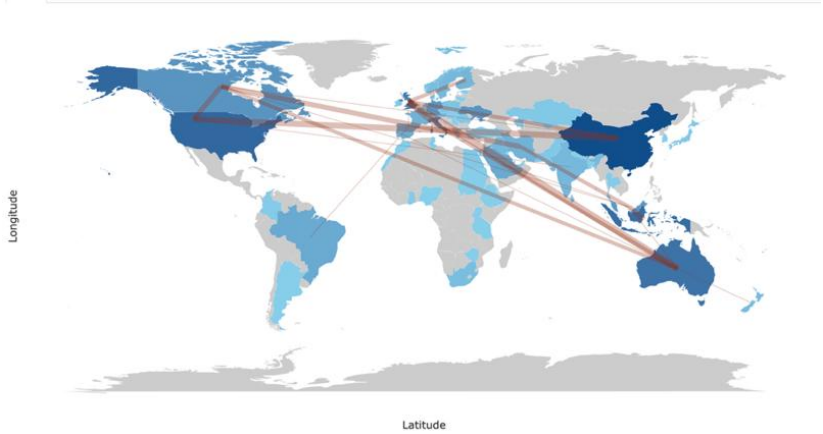

Figure 12. Countries Collaborating World Map

Source: R-Packages and WebInterface Biblioshiny (2025)

Figure 12 is a world map depicting international relations between countries based on the intensity of interaction, indicated by lines connecting continents. The color of each country indicates the level of involvement or intensity of the relationship, with dark blue indicating high levels of involvement and light blue indicating lower levels of involvement. The lines connecting countries indicate the flow of communication, collaboration, or mobility (such as student exchanges, research collaborations, or economic relations) between these countries. In a research context, this map can be used to depict global academic or scientific collaboration networks. For example, the lines connecting Australia with European and Asian countries indicate cross-continental collaboration, while the intensity of the colors in the United States, China, and Australia indicates their important positions in these networks. This map provides a clear visualization of the pattern of globalization and the distribution of international cooperation, which is important for foreign policy analysis, education, and technological development.

Initiative of Sustainability and Management Control System (MCS)

Based on the results of the word cloud visualization, this study concludes one of the potential research framework models to be used in further studies, by referring to the interrelationships between dominant topics that appear consistently in the literature related to MCS, as follows:

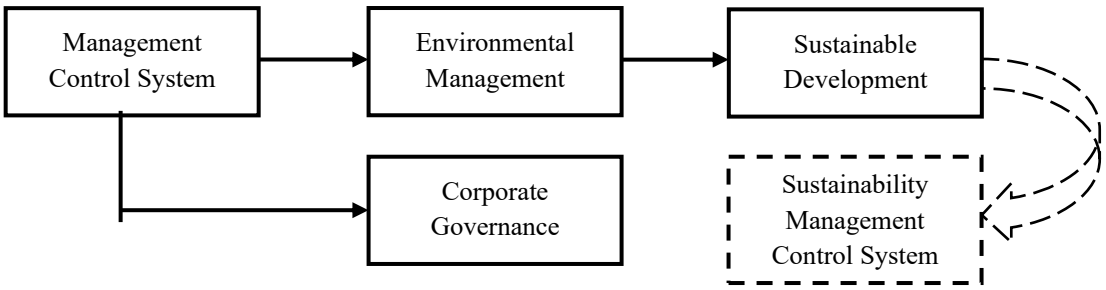

Figure 13. Initiation of MCS

Source: Data processed by researchers (2025)

Management Control System and Environmental Management

Management Control System (MCS) has a significant role in supporting Environmental Management practices within an organization (Gomes et al. 2025). MCS, as a formal and informal system designed to guide and influence managerial behavior, is not only aimed at achieving financial goals, but can also be modified to accommodate environmental

sustainability goals (Yuliawati et al. 2024). In this context, MCS serves as a framework that helps organizations plan, monitor, and evaluate environmental performance through specific sustainability indicators, such as carbon emission reduction, energy efficiency, waste management, and responsible use of natural resources (Dewi et al. 2024).

The integration between MCS and Environmental Management is seen in the implementation of environmental performance measurement systems, eco-efficiency indicators, and sustainability reporting, which are part of the management control system (Gomes et al. 2025). The use of non-financial performance indicators related to the environment enables organizations to systematically assess and control the ecological impact of their operational activities (Alfina et al. 2025). On the other hand, Environmental Management provides strategic direction and environmental policies that can be used as a basis for formulating targets and measuring performance in MCS. Through this approach, MCS is not only a tool for achieving internal efficiency, but also a means to respond to external pressures from government regulations, consumer demands, and stakeholder expectations for sustainable business practices (Li et al. 2024).

In addition, in the context of companies implementing an Environmental Management System (EMS), the role of MCS becomes increasingly important in ensuring consistent implementation of environmental policies and procedures across all organizational units (Yuliawati et al. 2024). MCS is also used to manage environmental risks and ensure compliance with applicable regulations through internal reporting systems and environmental audit mechanisms. Organizational culture support and managerial leadership for environmental issues are also part of the informal controls that strengthen the success of this integration (Wong et al. 2023). As global awareness of climate change and environmental degradation increases, the shift in MCS functions towards strategic and sustainability control highlights the importance of adapting management control systems in response to contemporary environmental challenges (Zulkefli and Moy 2021).

Environmental Management and Sustainable Development

Environmental Management and Sustainable Development are two concepts that are closely related in the framework of organizational strategy and public policy. Environmental Management refers to a systematic approach used to manage the environmental impacts of human and organizational activities through policies, procedures, and practices that aim to minimize environmental damage (Trong et al. 2023). The scope includes waste management, energy and natural resource conservation, emission control, and compliance with environmental regulations. This system can be institutionalized through certification, such as ISO 14001, or implemented through internal company policies (Hue, Quan, and Lap 2024).

Meanwhile, Sustainable Development is a macro framework that emphasizes the importance of balance between economic growth, environmental protection, and social welfare, with the main principle of meeting the needs of the current generation without sacrificing the capabilities of future generations (Hue et al. 2024). In this context, Environmental Management is positioned as an important instrument that supports the achievement of Sustainable Development goals, especially in the environmental dimension (Oyelayo et al. 2025). Through the implementation of effective environmental management systems, organizations and governments can ensure that development and operational activities are carried out responsibly and sustainably (Hue et al. 2024).

Integration between Environmental Management and Sustainable Development can be observed through proactive environmental policies, the use of environmental

performance indicators, and sustainability reporting (Li et al. 2024). Organizations that implement comprehensive environmental management will be better able to contribute to global targets such as carbon emission reduction, sustainable waste management, and energy efficiency—all of which are part of the Sustainable Development Goals (SDGs) (Fonseca Alves et al. 2022). In addition, Environmental Management practices that are responsive to the challenges of climate change and environmental degradation also encourage decision-making that is more aware of environmental risks and their impacts on long-term development. Therefore, the relationship between the two is complementary and strategic in the context of global and local sustainability (Wong et al. 2023).

Management Control System and Corporate Governance

Management Control System (MCS) and Corporate Governance are two important pillars that play a central role in ensuring alignment between organizational strategy and managerial behavior. MCS refers to the formal and informal systems used by management to influence, direct, and evaluate organizational activities in accordance with established goals.(Tripathi and Bhadauria 2025). This system includes elements such as budget planning, performance measurement, incentive systems, financial reporting, and organizational norms and culture that support effective decision making (Ito and Kato 2025). Meanwhile, Corporate Governance refers to a set of mechanisms, processes, and relationships used to direct and control a company, as well as regulate interactions between management, the board of directors, shareholders, and other stakeholders (González-Esquivel et al. 2023).

The influence of MCS on Corporate Governance practices is reflected in its ability to provide accurate, relevant, and timely information needed by the board of directors and audit committee in carrying out their supervisory and control functions. MCS helps minimize the risk of information asymmetry between management and capital owners, and reduces the potential for conflicts of interest (Wong et al. 2023). Within the framework of agency theory, MCS functions as a tool to balance the interests between agents (managers) and principals (shareholders) by creating an accountable performance-based evaluation and compensation system (Noya, Carr, and Thompson 2023). On the other hand, Corporate Governance provides a normative framework that encourages companies to build strong and accountable internal control systems, and ensures that managerial practices are in accordance with the principles of transparency, fairness, and social responsibility.(Gomes et al. 2025).

Furthermore, the structure and quality of Corporate Governance implemented will determine the extent to which MCS can function optimally in the organization. For example, the existence of an independent and active audit committee will increase the effectiveness of supervision of MCS implementation, especially in terms of financial reporting and risk management (Gopinathan et al. 2025). In addition, the ownership structure and composition of the board of directors also influence the extent to which MCS is used strategically to achieve competitive advantage and drive sustainable performance (Muhjazi et al. 2023). In practice, the interaction between MCS and Corporate Governance is greatly influenced by the institutional context, organizational culture, and pressures from the external environment, such as government regulations, capital markets, and stakeholder demands (Trong et al. 2023).

Sustainable Development and Sustainainability Management Control System

The concept of Sustainable Development has become a global paradigm that demands changes in the way organizations carry out activities and make decisions. Sustainable

development emphasizes a balance between economic growth, environmental sustainability, and social justice, with the aim of meeting the needs of the current generation without compromising the ability of future generations to meet their own needs. As pressure from society, government, and investors increases for more socially and ecologically responsible business practices, organizations are required to pursue not only financial profits but also consider the social and environmental impacts of their operations. This has led to the emergence of a new concept in the organizational management and control system, namely the Sustainability Management Control System (SMCS).

SMCS is a form of development of the traditional Management Control System (MCS), which has thus far focused solely on operational efficiency and achieving financial targets. In the context of sustainability, SMCS expands the scope of management control functions by incorporating sustainability dimensions into the planning, reporting, monitoring, and strategic decision-making processes. This approach is based on the Triple Bottom Line framework, which assesses organizational performance based on three main aspects: profit (financial), people (social), and planet (environmental). Therefore, performance indicators in SMCS encompass not only financial metrics, such as net profit, return on investment (ROI), and cost efficiency, but also non-financial metrics, including carbon emissions, energy consumption, employee welfare, gender inclusiveness, and contributions to local communities. By adopting SMCS, organizations can not only manage sustainability risks and meet regulatory demands and stakeholder expectations, but can also create sustainable long-term value. SMCS serves as a crucial tool to ensure that sustainability strategies are integrated into an organization's culture, performance measurement systems, and continuous evaluation and improvement processes. Overall, Sustainable Development has become a key driver in creating and developing the Sustainable Management Control System as a holistic and strategic approach to achieving sustainability goals systematically and measurably in every organizational activity.

CONCLUSION

This study maps the development of literature on Sustainability and Management Control System (MCS) in the period 2020 to 2025 using a bibliometric approach based on Scopus data. The results of the analysis show that despite a decline in publication productivity annually, academic interest in MCS issues remains high, reflected in the frequency of citations and the diversity of topics discussed. The main focus of the research is on the integration between management control systems, managerial accounting, and sustainability, with dominant keywords such as management accounting, environmental management, corporate governance, and sustainable development. The most extensive literature contributions come from countries such as China, Australia, and Indonesia, accompanied by an increasingly growing pattern of international collaboration. In general, these results confirm that MCS is an increasingly important field of study in supporting socially and environmentally responsible business practices.

Further research is suggested to expand the data sources to other bases, such as Web of Science or Dimensions, to obtain a more comprehensive coverage. Additionally, a qualitative approach, as demonstrated through case studies, can provide an in-depth understanding of the implementation of MCS in organizations. Further studies also need to explore the relationship between MCS and the development of digital technology, such as big data and sustainability analytics, and its integration with Environmental,

Social, and Governance (ESG) practices. This research has both theoretical and practical implications, enriching the literature on sustainability-based control systems and informing companies and policymakers on how to design control systems that are more adaptive to external pressures, regulations, and stakeholder demands in achieving sustainable development.

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