sustainability

MDPI

Article

The Rise of MCS and EMA in the Sustainable Field: A Systematic Literature Analysis

Tiantian Wang, Kamisah Ismail * and Khairul Saidah Abas Azmi

Faculty of Business and Economics, University of Malaya, Kuala Lumpur 50603, Malaysia
* Correspondence: kamisah.ismail@um.edu.my

Abstract: Sustainable development is becoming increasingly popular in all fields and the importance of sustainability and business issues will grow. Despite the increase in scholarly attention paid to improving organizational sustainability performance, such as Management Control Systems (MCS) and Environmental Management Accounting (EMA), few studies have been conducted on the relationship between MCS and EMA, with no aggregation of findings and knowledge. To fill this void, this study conducted a systematic literature review of the MCS and EMA in the field of sustainability. A comprehensive search was conducted for journal articles that addressed MCS and EMA issues in the context of sustainability. Considering that EMA and MCS are more widely used in manufacturing, this study focuses on the manufacturing industry. Based on rigorous inclusion and exclusion criteria, 43 journal articles were selected for the final analysis. The bibliometric data from the identified studies, their theoretical and methodological approaches, research themes, and research backgrounds were analyzed in this review. As a result, this study identifies existing gaps in the current literature, provides directions for the organization to research internal systems' interactions and suggests future research directions with specific research agendas.

Keywords: sustainability performance; environmental management accounting; management control system

Citation: Wang, T.; Ismail, K.; Abas Azmi, K.S. The Rise of MCS and EMA in the Sustainable Field: A Systematic Literature Analysis. *Sustainability* **2022**, *14*, 16532. https://doi.org/10.3390/su142416532

Academic Editors: Luigi Aldieri and Francesco Paolone

Received: 21 October 2022
Accepted: 6 December 2022
Published: 9 December 2022

1. Introduction

Sustainable development is essential for humanity and has become an accelerating trend. However, in the business and management area, "sustainability" is a notoriously difficult term to define. Firms, especially manufacturing firms, are indeed being challenged to act in an environmentally sustainable and socially responsive manner while continuing to operate on a daily basis and improving economic performance. These requirements and regulations published by the government are leading firms to constantly seek ways and information to improve and maintain a balance between environmental, social, and economic performance. Sometimes, firms must also make informed trade-offs among often-conflicting financial, environmental, and social objectives. The manufacturing activities could overexploit natural resources, ignore waste issues, and consume excessive energy [1]. As a result, the accounting profession is being called upon to expand its traditional role to include environmental and social performance in the financial reporting and management control systems [2]. Despite increasing scholarly attention to EMA and MCS in the sustainable area, there is a lack of coherent understanding of the relationship between EMA and MCS and how these two systems cooperate and achieve the goal of sustainability.

Nowadays, consumers' demand is not only the quality of products but also the focus on environmentally friendly practices and procedures [1]. Even though firms have paid more attention to sustainability in their production and operation process, little research has been conducted to better understand what we know and what we need to know about interacting EMA and MCS in the sustainability area and how managers optimize these two systems. According to the systematic literature review, this study could analyze the

existing literature and summarize the research findings and gaps, which could assist the researchers in determining the future research direction. Generally, this study summarizes the relevant EMA and MCS studies in the field of sustainability and analyses the research topic, methodology, and backgrounds related to these studies. Fortunately, this study could provide answers to the following questions.

1. What trigger mechanism has led firms to start paying attention to sustainability, EMA, and MCS?
2. What kind of theoretical foundations do these studies use?
3. What kind of research methods and samples do these studies choose?
4. What themes do these studies research?

Through the analysis of existing pieces from the literature, this study could provide the answers to these questions. This study also contributes to understanding the development of sustainability in the manufacturing industry and identifies the best practices for the manufacturing industry to achieve sustainability.

This study is structured as follows. First, identify the definitions of sustainable development in the manufacturing industry and its related concepts. Second, this study presents how to search, select, and identify the relevant literature. A total of 37 identified studies were analyzed, including 11 on EMA and 26 on MCS. Then, this study summarizes the findings by reviewing the relevant articles. Finally, this study discusses the direction of future research as well as the contributions of theory and practice.

2. Definitions of Sustainability Performance, MCS and EMA

In the business and management fields, firms have a difficult journey to develop, quantify, and achieve sustainability. "Sustainability" is a notoriously difficult term to define, and researchers have their perspectives on how to define it. As Elkington (2004, p. 3) [3] asserted, "Sustainable development and performance have three dimensions: economic viability, social responsibility, and environmental responsibility". Sustainable development depends on integrating environmental sensitivity [4], economic success [5], and social influence rather than individual components. This is because, as environmental issues become more sensitive, the government, stakeholders, and consumers have requirements [6]. Due to strong social responsibility, companies attempted to provide a more transparent and informative internal and external structure to meet these requirements. Naturally, these social and environmental pressures and responsibilities create numerous opportunities to generate economic benefits and additional costs. Nowadays, with increased triple bottom-line research [7], sustainability performance is identified as containing three environmental, social, and economic elements.

In order to achieve sustainable performance, internal managerial processes could not be overlooked; MCS and EMA are regarded as critical components that have drawn the attention of researchers. MCS, as a term, is used to describe the "formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities" [8]; there are other similar terms, such as "environmental management control systems" [1,9,10], "environmental management systems" [11], "environmental MCS package" [12], and "CSR in management control systems" [13], used to describe the sustainability aspects. In generating information for managerial decision making, MCS could help firms track their decision-making performance and feedback and feedforward information [14]. Analyzing the feedback and feedforward information generated by MCS could help firms to measure past activities and find future directions to achieve Sustainability Performance.

Because of the increasing trend of sustainability, which requires firms to focus on environmental issues and ecosystems, EMA is an essential task to implement [15]. As the interface between the external requirements and the goal of sustainability performance, EMA generates and transmits critical information to assist managers in making sustainability-related decisions [16]. Because EMA could provide the information that traditional accounting could not. EMA, in particular, plays an essential role in identifying opportunities and emerging threats, providing

information to managers, and aligning the organization's goals and values [17]. The definition of related concepts is summarized in Table 1.

Table 1. Definition of SP, MCS, and EMA.

Concept	Definition	Reference
Sustainability Performance (SP)	Sustainable development and performance have three dimensions: economic viability, social responsibility, and environmental responsibility	[3]
Management Control Systems (MCS)	Formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities	[8]
Environmental Management Accounting (EMA)	As the interface between the external requirements and the goal of sustainability performance generates and passes the essential information to help managers to make decisions related to sustainability	[16]

3. Research Methodology

To better understand and consolidate the knowledge of how firms use EMA and MCS to achieve Sustainability Performance, the literature review begins by identifying the aimed articles related to EMA, MCS, and Sustainability Performance. Suh and Prophet's (2018) [18] study followed the two-stage approach suggested by Webster and Watson (2002) [19] and Boell and Cecez-Kecmanovic (2015) [20]; this study adopts this approach to develop the research. In the first stage, some relevant articles are searched for with the keyword and then the scope of the search is refined by using some qualifications. The procedures are more stringent at the next stage, which includes the inclusion and exclusion criteria. These procedures may enable researchers to avoid biases in the data collection process and the detail of the process, as illustrated in Figure 1. Besides, this study was improved with the PRISMA 2020 flow diagram (Figure 2), which could help researchers develop their understandings.

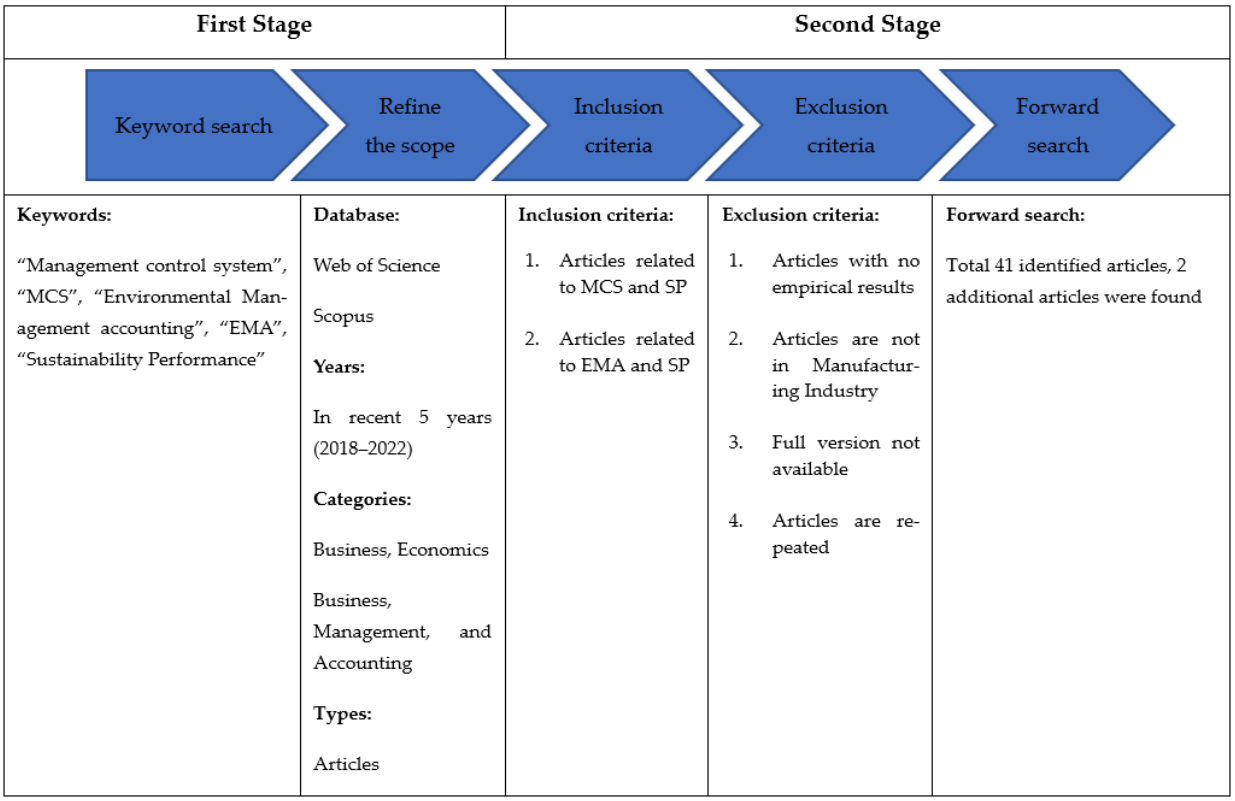

Figure 1. The process of the literature search and selection.

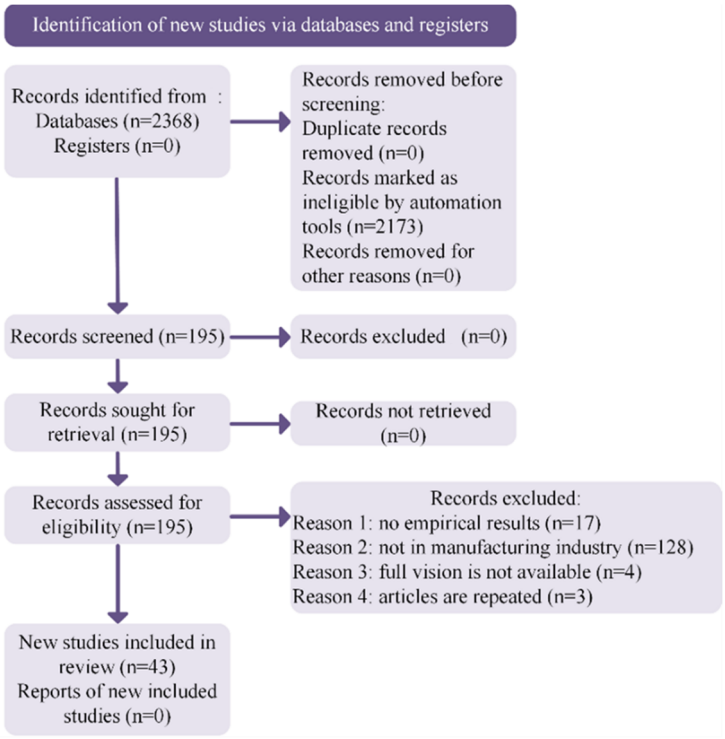

Figure 2. PRISMA 2020 flow diagram.

Web of Science (WoS) and Scopus are the databases used in this study. Using these two databases broadened the sample and minimized omissions. On the one hand, the Scopus database is the more comprehensive and primary source than the Web of Science; on the other hand, WoS could provide excellent quality articles due to its stricter peer review [21]. We finished the first-time search in August 2022 and, while considering the effectiveness, we researched the relevant literature on 1 December 2022. In the second stage, we discovered four extra articles that were not included in the first-time search. Firstly, the literature searches were conducted in the Web of Science database. In this study, "All Databases" was chosen for the option of "Search in" and "All" was chosen for the option of "Collections". Then, this study used the terms "Management control system" OR "MCS" AND "Sustain* Performance" in TS (Topic), TI (Title), AB (Abstract), and AK (Author Keywords) to produce 2098 papers, 1020 papers when limited to the recent five years (2018–2022), 183 papers journal articles, and 130 articles in the aimed categories (Business, Economics). Given that it may require time for companies to implement sustainability-related regulations and improve their management systems, this study selects the most recent five-year period from 2018 to 2022 as the suitable research period. By using the same process, WoS produced 250 papers with the terms "Environmental Management Accounting" OR "EMA" AND "Sustain* Performance", 88 papers when limited to the most recent five years, 80 papers belong to journal articles, and 57 articles are aimed categories (Business, Economics).

Then, the search process was also conducted in the Scopus database. In this database, a search was performed within "TITLE-ABS-KEY ("Environmental Management Accounting" OR "EMA" AND "Sustainability Performance")" and 8 papers were found; 5 papers were found when limited in the most recent five years and 2 articles in the aimed subject area (Business, Management, and Accounting). By using the same procedure, 12 papers were found related to "Management Control Systems" OR "MCS" AND "Sustainability Performance", 6 articles when limited to the most recent five years, and all belong to the aimed subject area (Business, Management and Accounting).

The further selected process would proceed at the second stage. According to the first selection, 136 (130 in WoS, 6 in Scopus) articles match the inclusion criteria related to

MCS and SP and 59 (57 in Wos, 2 in Scopus) articles related to EMA and SP. According to the exclusion criteria that (1) articles without empirical results, (2) articles are not in the manufacturing industry, (3) full vision is not available, and (4) articles are repeated, there are 25 articles in the MCS area and 16 articles in EMA area. The exclusion criteria process is used to select articles in Microsoft Excel. Firstly, use the filter function to find and label duplicate documents and, secondly, insert four blank columns named "MCS", "SP", "Empirical", and "Manufacturing". Then, read the "Abstract" of each article to confirm whether the article meets these four characteristics and use "Y (Yes)" and "N (No)" to label every article. Finally, using the filter function to select the articles with four "Y"; these articles will be analyzed. According to the inclusion and exclusion criteria, a total of 41 relevant research articles are identified and used for the following literature analysis procedures. The last step of the second stage is a forward search; this study added 2 articles.

After the process of search and selection, this study coded these identified research articles following the guidelines of Webster and Watson (2002) [19]. The details of coded information include bibliometric data (author(s) and publication years), the data type used in the analyses, and the analysis method (quantitative, qualitative, or mixed method). Furthermore, by analyzing these articles, this study summarized the research objective, theoretical framework, and results.

4. Results

4.1. Overview of Research Trends

The bibliometric data of 43 identified articles demonstrate the research trend. In recent years, the academic interest in EMA and MCS has rapidly grown; Table 2 indicates this trend that the number of academic articles about this topic has consistently grown over the past five years; 55.8% of the articles (n = 24) were published in the last two years. Analyzing the identified articles, there are two existing main research streams of the EMA and MCS. The main research stream regards EMA and MCS as mediating and moderating variables to support firms to achieve their goals. For instance, Hosoda (2018) [22] examined how management control systems (MCSs) can support the translation of activities into CSR actions. Ong, Magsi, and Burgess (2019) [1] explored the influence of organizational culture (OC) on a firm's environmental performance (EP) via the mediating variable of environmental management control systems (EMCS). Uyar (2020) [15] addressed why and how environmental strategies affect sustainability performance through EMA. Moreover, another research stream regards EMA and MCS as independent variables to affect a firm's performance. For example, Hasanudin et al. (2019) [23] used the diagnostic and interactive systems of MCS to affect firm performance. Tze San Ong, ZohReh Haghshenas, Boon Heng Teh, BabatunJi SaMueL AdedeJi, and Magsi (2021) [14] explored the impact of the interactive use of MCS on organizational performance. Bresciani, Rehman, Alam, Ashfaq, and Usman (2022) [12] discussed the influence of the environmental management control system (EMCS) package and perceived environmental uncertainty on green performance. Jiao, Zhang, He, and Li (2022) [24] explored how EMA could affect and enhance business sustainability. Merely one article [25] mentioned that the environmental management system (EMS) is necessary for the company to achieve environmental management accounting practices (EMAP) due to it potentially helping the company to manage, measure, and improve the environmental management.

Table 2. The number of articles in the last 5 years.

Year	Number of Hits
2018	5
2019	8
2020	6
2021	12
December 2022	12
Total	43

In the trend of the methodologies employed, a total of 31 articles adopted the quantitative approach, only 5 studies used secondary data, and 7 employed a qualitative approach. This trend demonstrated that the majority of researchers pay attention to the validity of the data and prefer to use primary data. In addition to the relevant characteristics of the article itself that can reflect the research trend, the citation of the author cannot be ignored. In these identified articles, Wijethilake, Munir, and Appuhami (2016) [26] are the most cited authors; their article is cited 96 times in all databases, followed by Younis and Sundarakani (2019) [11], which was cited 81 times; Hosoda (2018) [22] was cited 58 times, and Gunarathne, Lee, and Hitigala Kaluarachchilage (2020) [16] were cited 50 times. From an article's citations, we can know which author's research has received more attention and provided more reference value for other scholars.

4.2. Overview of Theory

Based on different research objectives and research frameworks, researchers chose the best suitable theory for their research. Table 3 demonstrates the theory employed in these identified articles. As shown in Table 3, the natural resource-based view was the most popular theory employed by researchers to explain their studies [11,12,14,23,26–34]. Other theoretical perspectives also were found to be used, such as contingency theory [1,10,13,35,36], stakeholder theory [11,23,37], institutional theory [11,27,29,33,37,38], natural resource orchestration perspective [17,31,39], and cognitive-behavioral theories [40]. One point worth emphasizing is that the natural resource orchestration perspective was a new approach introduced by Asiaei, Bontis, Barani, Moghaddam, and Sidhu (2021) [31]; they were inspired by the natural resource-based view [41] and resource orchestration theory [42]. This new approach provided a better explanation of their study.

Table 3. Summary of the theory.

Theory	Description	References
Natural Resource-based View	The theory suggests that the organizational ability to generate rent-earning resources and capabilities leads to a competitive advantage and highlights the limited scope of the resource-based view of the firm to explain the competitive advantage gained when the organization interacts with the natural environment.	[11,12,14,23,26–34,43]
Contingency Theory	The theory shows that research in management accounting is essentially contingent as it decides which frameworks may be most appropriate for specific firms in particular circumstances.	[1,10,13,35,36]

Table 3. *Cont.*

Theory	Description	References
Stakeholder Theory	The theory argues that a firm's performance is determined by its stakeholders' release of resources to trigger a response by the firm.	[11,23,37]
Institutional Theory	The theory claims that firms attempt to adapt to the surrounding environment by adhering to legitimacy rules and regulations from one side and through seeking social fitness from another side. These authors also claimed that a firm's behavior may be driven by a strong social force motivating the organization to go in a certain direction. Such a force can be any form of social driver including culture, law or regulations.	[11,27,29,33,37,38]
Natural resource orchestration perspective	The theory claims that an organization can reap the maximum benefits of its strategic resources and capacities only when they are structured, bundled, and managed effectively.	[17,31,39]
Cognitive-behavioral theories (social exchange theory, social identity theory, and the theory of planned behavior)	Planned behavior theory suggests that perceived behavioral control shapes an individual's behavior. Social exchange theory claims the involvement of employees in eco-related activities and decision making through the interactive use of eco-controls may evoke positive feelings, thereby motivating them to reciprocate by engaging in discretionary environmental behavior. Social identify theory states that the use of eco- controls, both interactive and diagnostic, is expected to lead to a stronger sense of employee belongingness to their organization and, hence, stronger social identity, "which in turn strengthens the motivation to perform citizenship behaviors".	[40]

4.3. Overview of Research Methods and Sample

In the research methods part, diverse methods were employed to collect data; surveys and case studies were the main methods. Most of the research (n = 29) adopted the survey method, followed by a qualitative case study (n = 7). The survey research method is prevalent because it is suitable for a large sample, is easy to distribute, and the research results could be generalized. Regarding the questionnaire distribution, most researchers have chosen to email the aimed respondents and others have chosen to use online survey software, such as Qualtrics [9,40] and survey monkey [11]. However, some researchers preferred to choose the qualitative method due to case study potentially providing a platform for researchers to "capture various nuances, patterns, and more latent elements that other research approaches might overlook" (Berg, 2007 p. 318) [44], and the data (opinions and impressions) are gathered from a human subject, the interview method was the most suitable technique for their research [29].

The manufacturing industry is a typical example of green and sustainable issues [9], such as high pollution, resource waste issues, non-renewable inputs, and toxic emissions; therefore, these selected articles were limited to manufacturing. What these articles have in common is that the targeted respondents were at the managerial level, such as the CEO, CFO, managers in the finance and accounting department, and other managers. Because these middle to top managers have adequate knowledge about their company's strategy, sustainability, and relevant management systems. Of the selected research, 34.9% (n = 15) chose the listed company as the target company, five studies (11.6%) chose a medium–large size company with a minimum of 100 staff to ensure their management systems could be sufficiently developed. The rest of the studies do not focus on the number of staff, but all of them are involved in high-pollution companies.

4.4. Overview of the Triggers Lead to EMA, MCS and Sustainability

Although the trend of triple-bottom-line is increasing, most researchers accept the three elements of sustainability performance. It is difficult to contain all three elements

(environmental, social, and economic) for researchers to develop their research in different companies. Thus, researchers would choose the more practical elements for the aimed company's unique situation. By analyzing these articles, 18 articles only mentioned the environmental performance, 7 articles divided the organizational performance into financial and non-financial performance, 6 articles included economic and environmental performance without social performance, 8 articles only discussed the economic performance, and 4 articles contained the three elements of sustainability performance (economic, environmental, and social performance).

Due to the increasing demands of sustainability outcomes, companies face pressures and incentives from multiple forces to improve and achieve their sustainability performance [45]. By analyzing these articles, this study finds out and summarizes the main factors that lead companies to focus on EMA, MCS, and SP, as eight studies mentioned the environmental innovation strategy that could improve their companies' core competitiveness, four studies discussed the competition from other companies and the stakeholder's pressures, two studies mentioned the corporate social responsibility that could improve their social impact, and one study mentioned the organizational culture. However, these pieces from the literature find and reach these conclusions based on a variety of frameworks; the underlying results are consistent. The common trigger of these articles is the increasing uncertainty from environmental, social, and economic factors; these uncertainties compel organizations to formulate and implement relevant EMA and MCS to achieve sustainability.

5. Discussion

Nowadays, sustainability is a growing trend, leading companies to focus on sustainability and causing researchers and managers to become increasingly interested in developing and improving management systems. This research revealed several findings and sought to summarize the factors that lead companies to focus on sustainability and their management systems, which can provide suggestions for future research.

This study mainly focuses on four parts to develop this analysis. First, the number of published papers every year reflects the research trend of EMA, MCS, and Sustainability Performance on the increase; particularly, the number of studies in the last two years accounts for 55.8%. This phenomenon not only reflects the increasing interest of scholars in such issues but also reflects the implementation and improvement of EMA and MCS becoming mature. The differences in the role of EMA and MCS could reflect the research stream. Some research regarded EMA and MCS as mediators or moderators; this indicated that EMA and MCS could convey and support the company to achieve their goals [46]; the other studies researched EMA and MCS as the independent variable to affect the company's sustainability performance. However, the citation of articles helps the researcher to know which article could provide more research value and which article has more attention. It is worth noticing that the number of empirical articles about the relationship between EMA and MCS is limited; one article [47] simply states the relationship between EMA and MCS without conducting any empirical research and another [25] investigates the relationship between EMAP and EMS. This phenomenon prompts researchers to ignore the interactions in the company's internal management mechanisms. As a result, more empirical studies are required to focus on it and investigate how these internal management mechanisms interact with one another. This is since more empirical research in this area will provide evidence for policy improvements to deal with and achieve sustainability.

The theory part demonstrated that the main theoretical foundations are the natural resource-based view and institutional theory, which could help researchers explain their research questions better. This is because, based on the natural resource-based view, the company could link success with their internal assets; it could manage and utilize its capabilities to improve its performance and achieve its goals, which could provide a better foundation for researchers to explain the impact of EMA and MCS. The Institutional Theory claims that a strong force may trigger the company's countermeasures to motivate it to endeavor to achieve its goals. Thus, this theory could explain whether internal or external

factors drove the adoption of EMA and MCS and whether the performance and goals were achieved.

Furthermore, the third part analyzed the primary method used by empirical research and the types of research samples that the researchers chose. The results of this part showed that the survey method is the most popular choice because several online survey software provided a platform to cause this method to be easier to distribute in the large sample and ensure the feedback results can be easily analyzed. By the results of the research sample, all these researchers have chosen the managerial level respondents as their target respondents. This could prove that researchers have common requirements for the target population. The researchers had their own choices in selecting the target company, but they all had high pollution and environmental issues.

The last part revealed why the company Improved and implemented the EMA and MCS to achieve sustainability. It could highlight the triggers for the manufacturing industry regarding the adoption and implementation of EMA and MCS. It provides the solution for the manufacturing industry to respond to the pressures and achieve sustainability [48].

Based on these relevant articles, some main future directions have been promoted. Besides the developed countries and some researched industries, the different contexts such as emerging countries, other industries, and economics are also polluters that could also provide research value [12,29,30,38,40,43,49]. Furthermore, conducting a multivariate mediation analysis that includes control variables or adding other factors related to EMA and MCS is also advocated [30,50]. In future studies, longitudinal data collection is suggested to examine casual associations [14,37,40] extensively. Following these future research directions, only the emerging countries had been adopted; some research had been developed in the emerging-country context, such as China [24,46,51], Malaysia [14,35,47], Uganda [38], Bangladesh [37], Australia [52,53] and Indonesia [49,50]. More appeals are needed for other suggestions to be accepted.

6. Conclusions

In order to ensure its quality in this literature review, we have followed the guidelines of Page et al. (2021) [54] to develop this research and have referenced the checklist of items to report this systematic review to ensure the process is rigorous and relevant. In the selection procedure, we ensured that we described the process clearly and in detail. Based on the analysis, the limitations and future research directions are discussed.

This research has several limitations in the chosen perspective and method parts; these limitations should be considered when discussing the findings. Firstly, in the literature review, the identified articles were selected by following our criteria; the selection criteria may limit other vital findings and knowledge to be noticed. For instance, the research area is limited to the manufacturing industry; although it is a typical example of green and sustainability issues, sustainability is a global issue that needs all works of life to be regarded seriously. Furthermore, this study's resource database was limited to Web of Science and Scopus to ensure the quality of the articles, but it is possible that some valuable publications are not in this database, which causes a lack of comprehensiveness in the literature search. In any case, the inclusion of the missed publications could not foreseeably affect the results of this research. Last but not least, by summarizing these identified articles, these studies only chose one method (quantitative or qualitative) to gather the data, which could not provide additional insights for acquiring the data.

Generally, literature reviews play a crucial role as the foundation for all research. A literature review can provide basic knowledge, create guidelines for practice, and provide evidence and grounds for future research and theory development. This study has presented the broadest look at the EMA and MCS related to sustainability. We hope this study could provide additional insights for researchers to understand the current state of EMA and MCS and offer valuable information that guides them to develop research agendas for future investigation. Therefore, we summarize the future agenda as follows.

Based on the analysis of this research, the thematic agenda point out that future research should involve the three elements of sustainability performance; this is because this study's results reveal that most of the literature is concerned with the subset of sustainability performance. Only four identified articles (9.3%) contained three elements of sustainability performance, while sustainability performance is a whole; choosing one or two elements is not rigorous. The methodological agenda points out that future research should consider adopting the mixed method. This is because, according to the analysis of the method's parts, all of these identified studies chose only one method. In the study of Lamprecht and Guetterman (2019) [55], the researchers could compare the quantitative and qualitative results to determine whether the results are consistent. This could also help the researcher to expand their understanding and gain deeper insights. In order to develop the research, studies are needed to gain more data and comprehensive results. By analysis, the sample of the research and the sample sizes of future research should be large enough to increase the methodological rigor. This is because medium–large size companies could ensure the implementation of relevant management systems and practices. Besides, some future themes that the sample articles suggested but have not accepted also need to be discussed, such as developing a multivariate mediation analysis and collecting longitudinal data.

Finally, the empirical research may also provide helpful advice for auditors and consultants on how the manufacturing industry implements and improves EMA and MCS in practice. In a nutshell, we hope this study will be helpful to other scholars and can provide research value.

Author Contributions: T.W. has reviewed the literature, developed the analytical framework, conducted data collection and analysis, and written the main contents of the paper. K.I. and K.S.A.A. have provided total academic guidance throughout the research process, supported the data collection and analysis, revised the paper, and offered advice to improve the paper. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Informed Consent Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Ong, T.S.; Magsi, H.B.; Burgess, T.F. Organisational culture, environmental management control systems, environmental performance of Pakistani manufacturing industry. *Int. J. Product. Perform. Manag.* **2019**, *68*, 1293–1322. [CrossRef]
2. Joshi, S.; Li, Y. What Is Corporate Sustainability and How Do Firms Practice It? A Management Accounting Research Perspective. *J. Manag. Account. Res.* **2016**, *28*, 1–11. [CrossRef]
3. Elkington, J. Enter the triple bottom line. In *The Triple Bottom Line: Does It All Add Up?* Henriques, A., Richardson, J., Eds.; Earthscan: London, UK, 2004; pp. 1–16.
4. Bai, C.; Sarkis, J.; Dou, Y. Corporate sustainability development in China: Review and analysis. *Ind. Manag. Data Syst.* **2015**, *115*, 5–40. [CrossRef]
5. Schaltegger, S. Sustainability as a driver for corporate economic success. *Soc. Econ.* **2011**, *33*, 15–28. [CrossRef]
6. Doluwarawaththa Gamage, S.D.; Gooneratne, T. Management controls in an apparel group: An institutional theory perspective. *J. Appl. Account. Res.* **2017**, *18*, 223–241. [CrossRef]
7. Elkington, J. *Cannibals with Forks: The Triple Bottom Line of the 21st Century*; New Society Publishers: Stoney Creek, CT, USA, 1998.
8. Simons, R. *Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal*; Harvard Business Press: Boston, MA, USA, 1995.
9. Abdel-Maksoud, A.; Jabbour, M.; Abdel-Kader, M. Stakeholder pressure, eco-control systems, and firms' performance: Empirical evidence from UK manufacturers. *Account. Forum.* **2021**, *45*, 30–57. [CrossRef]
10. Rötzel, P.G.; Stehle, A.; Pedell, B.; Hummel, K. Integrating environmental management control systems to translate environmental strategy into managerial performance. *J. Account. Organ. Chang.* **2019**, *15*, 626–653. [CrossRef]
11. Younis, H.; Sundarakani, B. The impact of firm size, firm age and environmental management certification on the relationship between green supply chain practices and corporate performance. *Benchmarking Int. J.* **2019**, *27*, 319–346. [CrossRef]
12. Bresciani, S.; Rehman, S.U.; Giovando, G.; Alam, G.M. The role of environmental management accounting and environmental knowledge management practices influence on environmental performance: Mediated-moderated. *Model. J. Knowl. Manag.* 2022; *ahead-of-print*. [CrossRef]

13. Cheffi, W.; Abdel-Maksoud, A.; Farooq, M.O. CSR initiatives, organizational performance and the mediating role of integrating CSR into management control systems: Testing an inclusive model within SMEs in an emerging economy. *J. Manag. Control* **2021**, *32*, 333–367. [CrossRef]
14. Magsi, H.B. Management Control Systems and Performance: The Mediating Role of Organisational Capabilities in Malaysia. *Asian J. Account. Gov.* **2021**, *15*, 1–19. [CrossRef]
15. Uyar, M. The Association Between Environmental Strategies and Sustainability Performance in The Context of Environmental Management Accounting. *Ege Akad. Bakis* **2020**, *20*, 21–41. [CrossRef]
16. Gunarathne, A.D.N.; Lee, K.H.; Hitigala Kaluarachchilage, P.K. Institutional pressures, environmental management strategy, and organizational performance: The role of environmental management accounting. *Bus. Strategy Environ.* **2020**, *30*, 825–839. [CrossRef]
17. Asiaei, K.; Bontis, N.; Alizadeh, R.; Yaghoubi, M. Green intellectual capital and environmental management accounting: Natural resource orchestration in favor of environmental performance. *Bus. Strategy Environ.* **2021**, *31*, 76–93. [CrossRef]
18. Suh, A.; Prophet, J. The state of immersive technology research: A literature analysis. *Comput. Hum. Behav.* **2018**, *86*, 77–90. [CrossRef]
19. Webster, J.; Watson, R.T. Analyzing the Past to Prepare for the Future: Writing a Literature Review. *Manag. Inf. Syst. Res. Center* **2002**, *26*, 13–23.
20. Boell, S.K.; Cecez-Kecmanovic, D. On being 'Systematic' in Literature Reviews in IS. *J. Inf. Technol.* **2015**, *30*, 161–173. [CrossRef]
21. Bahuguna, P.C.; Srivastava, R.; Tiwari, S. Two-decade journey of green human resource management research: A bibliometric analysis. *Benchmarking: Int. J.* 2022; *ahead-of-print*. [CrossRef]
22. Hosoda, M. Management control systems and corporate social responsibility: Perspectives from a Japanese small company. *Corp. Gov. Int. J. Bus. Soc.* **2018**, *18*, 68–80. [CrossRef]
23. Hasanudin, A.I.; Yuliansyah, Y.; Said, J.; Susilowati, C.; Muafi, M.; Tvaronavičienė, M. Management control system, corporate social responsibility, and firm performance. *Entrep. Sustain. Issues* **2019**, *6*, 1354–1368. [CrossRef]
24. Jiao, X.; Zhang, P.; He, L.; Li, Z. Business sustainability for competitive advantage: Identifying the role of green intellectual capital, environmental management accounting and energy efficiency. *Econ. Res. Ekon. Istraživanja* **2022**, *2022*, 1–23. [CrossRef]
25. Fuzi, N.M.; Habidin, N.F.; Janudin, S.E.; Ong, S.Y.Y. Environmental management accounting practices, management system, and performance. *Int. J. Qual. Reliab. Manag.* 2019; *ahead-of-print*. [CrossRef]
26. Wijethilake, C.; Munir, R.; Appuhami, R. Environmental Innovation Strategy and Organizational Performance: Enabling and Controlling Uses of Management Control Systems. *J. Bus. Ethics* **2016**, *151*, 1139–1160. [CrossRef]
27. Asaduzzaman Fakir, A.N.M.; Jusoh, R.; Rahin, N.M. Board of directors' characteristics, internal control mechanisms and corporate sustainability performance: A theoretical framework. *World Rev. Entrep. Manag. Sustain. Dev.* **2019**, *15*, 765–784. [CrossRef]
28. Mahmoudian, F.; Nazari, J.A.; Herremans, I.M. Sustainability control system components, reporting and performance. *Corp. Gov. Int. J. Bus. Soc.* **2020**, *22*, 633–652. [CrossRef]
29. Corsi, K.; Arru, B. Role and implementation of sustainability management control tools: Critical aspects in the Italian context. *Account. Audit. Account. J.* **2021**, *34*, 29–56. [CrossRef]
30. Jell-Ojobor, M.; Raha, A. Being good at being good—The mediating role of an environmental management system in value-creating green supply chain management practices. *Bus. Strategy Environ.* **2022**, *31*, 1964–1984. [CrossRef]
31. Asiaei, K.; Bontis, N.; Barani, O.; Moghaddam, M.; Sidhu, J. The role of sustainability control systems in translating CSR into performance in Iran. *Manag. Decis.* **2021**, *60*, 1438–1468. [CrossRef]
32. Latan, H.; Jabbour, C.J.C.; de Sousa Jabbour, A.B.L.; Wamba, S.F.; Shahbaz, M. Effects of environmental strategy, environmental uncertainty and top management's commitment on corporate environmental performance: The role of environmental management accounting. *J. Clean. Prod.* **2018**, *180*, 297–306. [CrossRef]
33. Wijethilake, C.; Ekanayake, A. Proactive strategic responses to corporate sustainability pressures: A sustainability control system framework. In *Advances in Management Accounting*; Emerald Publishing Limited: Bingley, UK, 2018; pp. 129–173.
34. Ayu Nani, D.; Dina Safitri, V.A. Exploring the Relationship between Formal Management Control Systems, Organisational Performance and Innovation: The Role of Leadership Characteristics. *Asian J. Bus. Account.* **2021**, *14*, 207–224. [CrossRef]
35. Ismail, K.; Isa, C.R.; Mia, L. Market Competition, Lean Manufacturing Practices and The Role of Management Accounting Systems (MAS) Information. *J. Pengur.* **2018**, *52*, 47–61. [CrossRef]
36. Ghandour, D.A.M. Analytical review of the current and future directions of management accounting and control systems. *Eur. J. Account. Audit. Financ. Res.* **2021**, *9*, 42–73.
37. Deb, B.C.; Rahman, M.M.; Rahman, M.S. The impact of environmental management accounting on environmental and financial performance: Empirical evidence from Bangladesh. *J. Account. Organ. Chang.* 2022; *ahead-of-print*. [CrossRef]
38. Bananuka, J.; Bakalikwira, L.; Nuwagaba, P.; Tumwebaze, Z. Institutional pressures, environmental management practices, firm characteristics and environmental performance. *Account. Res. J.* **2021**, *34*, 637–665. [CrossRef]
39. Ismail, K.; Isa, C.R.; Mia, L. Evidence on the usefulness of management accounting systems in integrated manufacturing environment. *Pac. Account. Rev.* **2018**, *30*, 2–19. [CrossRef]
40. Nuhu, N.A.; Baird, K.; Su, S. The impact of interactive and diagnostic levers of eco-control on 'eco-innovation': The mediating role of employee environmental citizenship behaviour. *Account. Financ.* 2022; *ahead of print*. [CrossRef]
41. Hart, S.L. A natural-resource-based view of the firm. *Acad. Manag. Rev.* **1995**, *20*, 986–1014. [CrossRef]

42. Sirmon, D.; Hitt, M.R.; Gilbert, B. Resource orchestration to create competitive advantage breadth, depth, and life cycle effects. *J. Manag.* **2011**, *37*, 1390–1412.
43. Bresciani, S.; Rehman, S.U.; Alam, G.M.; Ashfaq, K.; Usman, M. Environmental MCS package, perceived environmental uncertainty and green performance: In green dynamic capabilities and investment in environmental management perspectives. *Rev. Int. Bus. Strategy*, 2022; *ahead-of-print*. [CrossRef]
44. Berg, B.L. *Qualitative Research Methods for the Social Sciences*; Pearson Education: New York, NY, USA, 2007.
45. Grewal, J.; Serafeim, G. Research on Corporate Sustainability: Review and Directions for Future Research. *Found. Trends Account.* **2020**, *14*, 73–127. [CrossRef]
46. Appiah, B.K.; Donghui, Z.; Majumder, S.C.; Monaheng, M.P. Effects of Environmental Strategy, Uncertainty and Top Management Commitment on the Environmental Performance: Role of Environmental Management Accounting and Environmental Management Control System. *Int. J. Energy Econ. Policy* **2020**, *10*, 360–370. [CrossRef]
47. Johnstone, L. A systematic analysis of environmental management systems in SMEs: Possible research directions from a management accounting and control stance. *J. Clean. Prod.* **2020**, *244*, 118802. [CrossRef]
48. Gibassier, D.; Alcouffe, S. Environmental Management Accounting: The Missing Link to Sustainability? *Soc. Environ. Account. J.* **2018**, *38*, 1–18. [CrossRef]
49. Solovida, G.T.; Latan, H. Achieving triple bottom line performance: Highlighting the role of social capabilities and environmental management accounting. *Manag. Environ. Qual. Int. J.* **2021**, *32*, 596–611. [CrossRef]
50. Sari, R.N.; Pratadina, A.; Anugerah, R.; Kamaliah, K.; Sanusi, Z.M. Effect of environmental management accounting practices on organizational performance: Role of process innovation as a mediating variable. *Bus. Process Manag. J.* **2021**, *27*, 1296–1314. [CrossRef]
51. Wang, S.; Wang, H.; Wang, J. Exploring the effects of institutional pressures on the implementation of environmental management accounting: Do top management support and perceived benefit work? *Bus. Strategy Environ.* **2019**, *28*, 233–243. [CrossRef]
52. Phan, T.N.; Baird, K.; Su, S. The use and effectiveness of environmental management accounting. *Australas. J. Environ. Manag.* **2017**, *24*, 355–374. [CrossRef]
53. Tashakor, S.; Appuhami, R.; Munir, R. Environmental management accounting practices in Australian cotton farming: The use of the theory of planned behaviour. *Account. Audit. Account. J.* **2019**, *32*, 1175–1202. [CrossRef]
54. Page, M.J.; McKenzie, J.E.; Bossuyt, P.M.; Boutron, I.; Hoffmann, T.C.; Mulrow, C.D.; Shamseer, L.; Tetzlaff, J.M.; Akl, E.A.; Brennan, S.E.; et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *Syst. Rev.* **2021**, *10*, 1–11. [CrossRef] [PubMed]
55. Lamprecht, C.; Guetterman, T.C. Mixed methods in accounting: A field based analysis. *Meditari Account. Res.* **2019**, *27*, 921–938. [CrossRef]