A Systematic Review of Corporate Governance and Sustainability Performance: Pre- and Post- Sustainable Development Goals Adoption Period

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ABSTRACT

Corporate governance has progressed beyond just saving money or maintaining a good reputation; it is also aims to integrate company values with the sustainability agenda. The top management of most companies is beginning to perceive the sustainability agenda as necessary. Hence, this study aimed to examine the impact of corporate governance on the sustainability performance of firms during the pre- and post- Sustainable Development Goals (SDGs) adoption periods. The researchers critically selected, identified, organized, and analysed the data from WoS and Scopus based on the keyword of this study. After screening the data, about 78 publications were chosen, of which 60 publications were from Web of Science (WoS), and 18 publications are from Scopus. The result found that the impact of corporate governance on sustainability performance revealed a 96% positive relationship and 4% negative relationship between corporate governance and sustainability performance. The outcome of the systematic literature review of corporate governance and sustainable performance indicated a pattern that can be used by organizations and researchers to improve research quality and fill the gaps from past research.

Keywords: Corporate Governance, Sustainability Performance, Sustainable Development Goals, SDGs Adoption Period, Systematic Review

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INTRODUCTION

Corporate governance and sustainability have become a concern and are gaining prominence in recent years (Kamarudin et al., 2021; Uwalomwa and Uadiale, 2011). Most stakeholders have shifted their focus toward sustainability instead of short-term profits that do not guarantee organization longevity. Sustainability has also become a concern for all nations. The United Nations (UN) has adopted the Sustainable Development Goals (SDG) in 2015, aiming to protect the environment and the planet, thus preventing communities around the world from facing poverty and ensuring prosperity by 2030. In this particular area of sustainable development, stakeholders have demanded that companies increase awareness when performing corporate responsibilities, including dealing with global warming and human rights problems (Tjahjadi et al., 2021).

In achieving sustainable performance, all parts of an organization have to be involved, starting from the low-level management to the highlevel management, including stakeholders. Sustainable performance mostly depends on corporate governance quality because effective corporate governance will maintain the trust of stakeholders (Ammer et al., 2020). This will be useful in obtaining prospective investors and realizing the future goals of an organization. Corporate governance is defined as the disclosure, transparency, accountability, and practices followed by institutions and corporations and the government (Bhuvaneswari and Ramanithilagam, 2020). The increasing awareness of corporate governance and sustainable performance has led to a growing literature in this research area. Hence, this paper focuses on the trends and issues highlighted in previous studies concerning the relationship between the two variables.

Corporate Governance and Sustainability Performance

Human rights, bribery, corruption, and climate change are among the issues concerning corporations across the world today. As a result, most sustainability projects involve the intersection between corporate governance and sustainability issues. The World Commission on Environment and Development (WCED) defined sustainability as filling the demands of the present generation without jeopardising the ability of future generations to fulfil their own needs. The WCED refers to the development of a society that strikes an optimal balance between economic, social, and environmental aims.

When incorporating the concept of sustainability, companies should initiate strategies that lead to the implementation of social, environmental, and economic values. According to Krechovska and Prochazkova (2014), companies need to have the ability to positively impact ecosystems, societies, and economic development by improving natural resources, reducing pollution, creating jobs, distributing wealth through dividends and paying fair salaries to employees. Since the sustainability issues that arise today came from weak corporate governance among the board of directors and management executives (Buniamin et al., 2011; Ismail and Latiff, 2019; Naciti, 2019), corporate governance and sustainability performance cannot be considered independently (Shamil et al. 2014; Al Hammadi and Nobanee, 2019).

Cucari et al. (2017) and Ismail and Latiff (2019) have found that board capability is the driving factor that leads organizations towards better disclosure on sustainability practices, and board reputation is a mirror that portrays the firm's sustainability practices. Naciti (2019) stated that board diversity and the separation of board chair and Chief Executive Officer (CEO) roles enhances environmental performance. Al Hammadi and Nobanee (2019) highlighted that companies with poor corporate governance contributed to the loss of revenue and new investors.

Corporate governance could impact on sustainability performance by enforcing good board independence since it has a positive association towards green disclosure (Liao *et al.*, 2015) and leads to greater corporate environmental practices of a company (Fernandes *et al.*, 2019). Additionally, another corporate governance indicator is the role of the CEO. A powerful CEO could enhance a company's disclosure on social and environmental contexts (Gerged, 2021). Various researchers have attested that the CEO has a significant role in the explanation of socially responsible and sustainable activities (Cho *et al.*, 2019; Kouaib *et al.*, 2021). Thus, companies with good corporate governance practices will be more environmentally responsible.

The literature that explains the relationship between corporate governance and sustainability performance is based on two dominant

theories: the Agency Theory (AT) (Jensen and Meckling, 1976) and Stakeholder Theory (ST) (Freeman, 1984). The AT describes the problems in the principal-agent relationship when the agent's goals differ from those of the principal. This problem is due to information asymmetry, opportunistic behavior, and a conflict of interest between managers and shareholders. According to Fama and Jensen (1983), the AT promotes the separation of decision-making between the principal and the agent to align their goals.

On the other hand, the ST identifies parties in concrete terms with the company responsible. It is also the starting point for reflection on the mechanisms where the company obtains and loses its social legitimacy. Eesley and Lenox (2006) and Sarkis *et al.* (2010) concluded that stakeholder pressure has provided organizations with incentives to implement diverse environmentally friendly practices. Chernev and Blair (2015) also confirmed that the quest for economic, environmental, and social sustainability among stakeholders improved financial performance. Furthermore, proactive environmental measures have been shown to boost organizations' financial performance and commercial situation through win-win efforts (Montabon, *et al.*, 2007).

Although previous studies had investigated the link between corporate governance and sustainability performance in terms of the board composition, the results are varied and inconsistent (Janggu *et al.*, 2014; Trireksani and Djajadikerta, 2016; Naciti, 2019; Ismail and Latiff, 2019; Gerged, 2021). Thus, a large body of literature is needed in this area to enhance understanding among practitioners and improve progress in the literature (Yawar and Seuring, 2017). A systematic review is one of the methods that would illustrate on the whole studies about certain topics that involve a critical summary of publications (Linares-Espinós *et al.*, 2018).

Therefore, this study focussed on the systematic review that summarizes the impact of corporate governance on sustainability performance of firms for the pre- and post-SDG adoption periods to see the different practices of corporate governance indicators among researchers for both periods. It represents the sustainability practice of the firms that is illustrated in corporate disclosure. Besides focusing on the impact of corporate governance on sustainability performance, this study points out the measures used by the researcher for both periods to see the differences and approaches of the study before and after the establishment of the SDGs. Additionally, this study also concentrated on the sustainability measures to see the enhancement of its measures during pre- and post-SDG adoption periods.

This study highlights the publication trends during pre- and post-SDG adoption, the sustainability measures related to the SDGs, and the classification of goals for the overall measures. The existing literature has less approaches on the use of corporate governance and sustainability measures as well as the classified sustainability dimensions that specifically focused on pre- and post-period of SDGs adoption. Thus, the shortcomings of the existing literature presented in this study will help future researchers to find ways to fill the gaps.

METHODOLOGY

A systematic review is the reviewed data in the study involving the selection, identification, organization, and critical analysis of the data (Muhmad and Muhamad, 2020; Babatunde *et al.*, 2017; Gough *et al.*, 2012). It is the compilation of past research that contains information from the selected literature about the journals and distribution of publications to seek answers to the specific questions raised in the study. The research questions of this study were as follows:

- 1. What are the corporate governance measures adopted for the pre- and post-SDG adoption periods?
- 2. What are the sustainability measures adopted for the pre- and post-SDG adoption periods?
- 3. What is the most dominant sustainability dimension present in this study?
- 4. What is the impact of corporate governance on the sustainability performance of firms in the pre- and post-SDG adoption periods?

Literature Search

This study focussed on corporate governance and sustainability performance. Data were identified using two renowned indexed electronic

databases, namely Web of Science (WoS) and Scopus. The keywords used for the database searches were "corporate governance and sustainability practice" AND "corporate governance and responsible investment". Both keywords were employed to uncover articles that described the impact of corporate governance on sustainability performance to answer all the research questions. Sustainable practice and responsible investment were employed as the main theme of the articles to identify sustainable performance with corporate governance. Responsible investment was used as one of the keywords in this article as it is one of the sustainability measures used by many researchers. It was also found to be positively related to the sustainability performance of businesses (Indriastuti and Chariri, 2021). This study did not solely use single keywords such as "corporate governance" or "sustainability performance" because the results would be imprecise and less accurate in fulfilling the objectives of this study.

A research article was considered eligible to be included in this study if: (1) it covers both corporate governance and sustainability performance of firms and (2) it is a peer-reviewed article. Papers not related to both corporate governance and sustainability performance were excluded. Only articles written in English were accepted, and the data taken covered studies within 11 years from 2011 until 2021.

Search Output

The first phase of data collection involved retrieval from WoS and Scopus, which generated 152 peer-reviewed articles. A review was conducted by restricting the topics to include only corporate governance and sustainability performance of companies. In the second phase, the short-listed samples from the first phase were filtered by scanning the title, abstract, and specific keywords to select articles with clear relevance to corporate governance and sustainability performance. Because this is an exploratory study, the article screening process was limited to open-access articles. A total of 152 articles were selected in the first phase, and after screening through the full-text review and open-access articles, 109 articles fulfilled the inclusion criteria. Of the 109 articles, 31 articles were from both Scopus and WoS. After subtracting the redundant articles, the number of remaining articles was 78, of which 60 articles were from WoS, and 18 articles were from Scopus (see Figure 1).

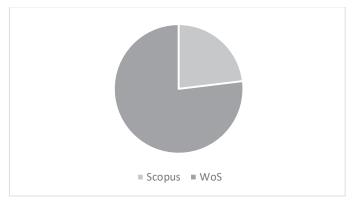
Data Extraction

The information recorded for each selected research article covered 10 items: (i) author(s), (ii) journal name, (iii) publisher, (iv) year of publication, (v) research theme, (vi) study location (country), (vii) database source, (viii) corporate governance measures, (ix) sustainability measures, and (x) sustainability dimensions. The research articles were classified by country and region to identify the geographical patterns in the studies. Each study was also classified according to the publication period. The periods included were (i) before the SDG adoption from 2011 to 2015 and (ii) after the SDG adoption from 2016 to 2021.

Review Findings

Number of studies per year

As shown in Figure 1, the total number of studies related to corporate governance and sustainability performance was 78, where 60 study indexes were in Scopus data source, while 18 study indexes were in WoS. When aggregating the publications related to corporate governance and sustainability performance based on year (Figure 2), there were increments in the number of studies within 10 years (2011-2020). This showed that many researchers were interested in the area of corporate governance and sustainability. However, in 2021, there were only 12 publications available as the data collection process was conducted early that year. The increased number of studies across 9 years suggested that it was in line with the global agenda of corporate governance and sustainability. The increased number of studies from 2017 until 2020 reflected the last update of G20/OECD Principles of Corporate Governance in 2015 (OECD, 2015). Moreover, the increased interest in the sustainability field arose from the Sustainable Development Goals (SDG) proposed by the United Nations in 2015 (United Nations, 2015).



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Figure 1: Distribution of Reviewed Articles by Database

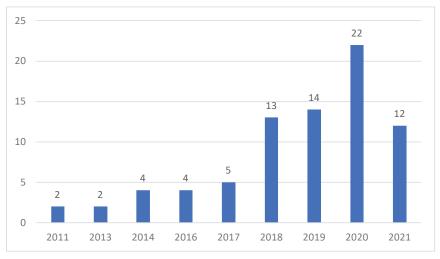


Figure 2: Number of Studies Per Year

Distribution of studies by journal

The following Table 1 presents the journal distribution based on pre- and post-SDG adoption periods. For Panel A, before SDG adoption (2011 to 2014), there were a total of 8 studies that covered the relationship between corporate governance and sustainability. There were also four studies indexed in WoS, which was similar to the number of studies indexed in Scopus. For Panel B, after the SDG adoption period, the number of studies increased from 2016 to 2020 in both journal categories (WoS and Scopus). The number of studies indexed in WoS was higher than in Scopus. Both WoS and Scopus journals had 46 and 12 publications, respectively, for 2016 to 2020. However, the number of studies slightly decreased in 2021 for both indexed journals because this studieswere still ongoing during that year.

There were differences in the number of studies in both periods (Panel A and Panel B). For Panel B, there was an increasing trend in the number of studies covering corporate governance and sustainability. The trend indicated that sustainability was emphasized during the post-SDG adoption period. This was in line with the sustainable development goals promoted by the United Nations and regulators around the world. Hence, scholars' opinions on corporate governance were essential for financial positions and societal, environmental, and economic sustainability.

	Panel A: Pre-SDG Adoption Period				Pos		Panel E Adopt	3: tion Pe	riod
Indexed Journal Categories	2011	2013	2014	2016	2017	2018	2019	2020	2021
Web of Science (WoS)	1	2	1	4	5	10	9	18	10
Scopus	1		3			3	5	4	2
Total	2	2	4	4	5	13	14	22	12

Table 1: Journal Distribution During Pre- and Post-SDG Adoption Periods

The articles were selected based on reputational journals and highimpact journals. Based on the 78 total publications, the *Sustainability* journal published the highest number of articles related to the subject area, with 15 articles. Meanwhile, the *Journal of Cleaner Production* published 7 articles, followed by *Corporate Social Responsibility and Environmental Management* with 6 articles. *Business Strategy and The Environmental Management* with 6 articles. *Business Strategy and The Environment* published 5 articles. Other journals published 1 article, except for the *Australasian Accounting Business and Finance Journal* and *Corporate Governance-The International Journal of Business in Society* with 3 articles each. The *Indian Journal of Corporate Governance, Indonesian Journal of Sustainability Accounting and Management, International Journal of Disclosure and Governance, Social Responsibility Journal*, and *Sustainability Accounting Management and Policy Journal* each published 2 articles in the subject area.

Table 2: Journal and Number of Publications					
Name of Journal	No. of Publications				
Accounting Research Journal	1				
Asian Journal of Sustainability and Social Responsibility	1				
Asian Review of Accounting	1				
Australasian Accounting Business and Finance Journal	3				
Business Strategy and The Environment	5				
Corporate Governance-The International Journal of Business in Society	3				
Corporate Social Responsibility and Environmental Management	6				
Critical Perspectives on International Business	1				
E & M Ekonomie a Management	1				
Environmental Science and Pollution	1				
Ethics, Governance and Risk Management in Organizations. Accounting, Finance, Sustainability, Governance & Fraud: Theory and Application.	1				
Indian Journal of Corporate Governance	2				
Indonesian Journal of Sustainability Accounting and Management	2				
International Journal of Auditing	1				
International Journal of Business and Management Science	1				
International Journal of Business Performance Management	1				
International Journal of Climate Change Strategies and Management	1				
International Journal of Disclosure and Governance	2				
International Journal of Economics, Business and Management Research	1				
International Journal of Finance & Economics	1				
International Journal of Financial Research	1				
International Journal of Managerial and Financial Accounting	1				
International Journal of Mathematical Engineering and Management Sciences	1				
Journal of Applied Accounting Research	1				
Journal of Asian Finance Economics and Business	1				
Journal of Business Ethics	1				
Journal of Cleaner Production	7				
Journal of Financial Reporting and Accounting	1				
Journal of Management Information and Decision Sciences	1				
Jurnal Pengurusan	1				

Table 2: Journal and Number of Publications

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Management of Environmental Quality	1
Meditari Accountancy Research	1
Procedia-Social and Behavioral Sciences	1
Property Management	1
Quality-Access to Success	1
Rae-Revista De Administracao De Empresas	1
Social Responsibility Journal	2
Sustainability	15
Sustainability Accounting Management and Policy Journal	2
Sustainable Development	1
TOTAL	78

Distribution of studies by country

Figure 3 shows the distribution of studies based on countries. From the two sources (WoS and Scopus), 56 studies covered the area of corporate governance and sustainability around the world. Based on that, the studies that covered at least more than 2 countries were assigned under the 'Global' category. This included studies covering several countries, such as the Asia-Pacific Region, Latin America, and Gulf Cooperation Council (GCC) countries, with 22 publications. A large number of studies conducted around the globe showed that variables of corporate governance and sustainability performance were relevant for these studies. There were 16 articles published in developed countries, including the United States and Italy, with 5 publications in both countries. Meanwhile, most samples were collected from developing countries, with 40 publications. Malaysia dominated the number of publications with 10 articles, followed by Indonesia with 6 articles. The domination of developing countries in publications related to corporate governance and sustainability is due to the growth of voluntary disclosure in those countries (KPMG, 2020).

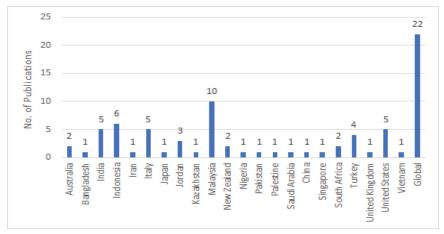


Figure 3: Distribution of Publication by Country

Distribution of studies according to corporate governance

The integration of sustainability practices in the corporate governance structure is needed to improve company operations and performances. Corporate governance is measured by various indicators. According to Table 3, this paper found that prior to SDG adoption, publications related to corporate governance focused more on the characteristics and structures of the board of directors, such as board independence, CEO duality, ownership, board size, board expertise, board professionalism, designation, diversity, and number of board meetings. During this period, issues on corporate governance were focused on the economy and the structure of corporate governance.

During the post-SDG adoption period, publications on corporate governance began to expand corporate governance indicators by aligning them with the implementation of SDGs. The indicators included women on the board (SDG 5- Gender Equality), CSR committees, employee CSR training (SDG 12- Responsible consumption and production), transparency and anti-corruption, compliance to corporate governance (SDG 16- Peace, Justice and Strong Institution), Shareholder Activism (SDG 17- Partnership for the goals.

These indicators were categorized based on SDG target indicators (United Nations, 2015) and SDG Industrial Matrix (United Nations, 2015).

The highlighted corporate governance indicators showed the publications in the studied period tended to align the focus of corporate governance with sustainable development goals.

Period	Corporate Governance Indicators	Related-SDGs
Pre-SDG	Board Independence	
	CEO Duality	
	Board Ownership	
	Board Size	
	Financial Expert	
	Meeting Frequency	
	Board Professionalism	
	Board Designation	
	Board Diversity	
Post SDG	Women on the board	SDG 5- Gender Equality
	Reference Shareholder	
	Board Committees	
	Board Composition	
	Board Incentive	
	CSR Committees	SDG 12- Responsible consumption and production
	Sustainability Committee	SDG 12- Responsible consumption and production
	Senior Management Support	
	Audit Committee	
	Board Competencies	
	Board Reputation	
	CEO Characteristics	
	Shareholder Activism	SDG17 - Partnerships for the goals
	Transparency and Anti-Corruption	SDG 16- Peace, Justice and Strong Institutions
	Board Behavioural Characteristics	
	Age of the Business Group	
	Employee CSR Training	SDG 12- Responsible consumption and production
	Compliancy on Code of Corporate Governance	SDG 16- Peace, Justice and Strong Institutions
	Influential Community Board Members Directors' Interlocks	
	Board Experience	

Table 3: List	of Corporate	Governance	Indicators
		00101110100	maioatoro

Distribution of sustainability measures

Fulfilling the sustainable development gazetted by the United Nations has become a major concern for businesses nowadays as it serves as a guideline for effective business strategies. Most businesses need to implement sustainability measurement into their business operations and evaluation process. They should provide information about the environment and socio-economic activities of the companies as indicators of sustainability measurement. Sustainability performance in this study was measured to express how corporate governance affected the performance of sustainability in businesses.

This study found that the publications for the pre-SDG adoption period focused more on sustainability reporting scores, corporate social responsibility, and environmental disclosure. However, the total number of publications for the pre-SDG period was far lower than the post-SDG period. Additionally, various sustainability measurements were used in the post-SDG period. The highest measurement frequency used in this study was sustainability reporting scores, followed by corporate social responsibility, ESG scores, GRI sustainability reports, environmental disclosure, and others, as illustrated in Figure 4. The highlighted sustainability measures in the post-SDG period showed that the publications in the studied period focused more on sustainable development goals.

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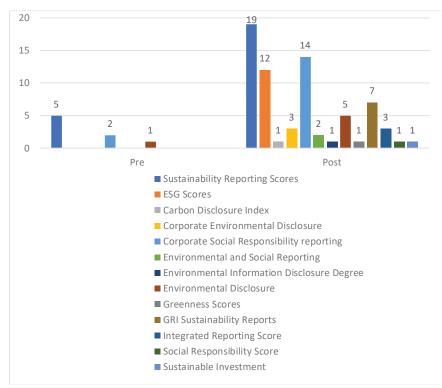


Figure 4: Distribution of Sustainability Measures for Pre- and Post SDG

Distribution of publications by sustainability dimension

This study used sustainability dimensions adopted from Alshehhi *et al.*, (2018) and Muhmad and Muhamad (2020) to analyze the distribution of the articles. The dimension groups were as follows:

- 1. Single dimension group (Social, Economic and Environment)
- 2. Combinations of two sustainability dimension
- 3. Articles that focus on all sustainability dimension
- 4. Articles that focus on ESG.

The sustainability dimensions were developed to explore the indicators that focussed on SDG achievement. The single dimension group represented one group, which is either social, environmental, or economic. As shown in Figure 5, the economic dimension was excluded in this study since no study focussed on that single dimension. Based on the articles reviewed,

the social dimension dominated the single dimension group, as illustrated in Figure 5. The bi-combination of dimensions group included in this study was social-environmental as it is the only bi-combination dimension found in the articles analysed. The social-environmental dimension exhibited the lowest number of publications, which was only one publication per year from 2018 to 2020. The sustainability group represented the combination of all single dimensions, such as social, environmental, and economic dimensions. The group dimension that dominated this study was the sustainability dimension. Most of the studies employed the sustainability dimension as it combined the social, environmental, and economic dimensions. The new dimension included in this study was the ESG group, which is a combination of environmental, social, and governance dimensions. The ESG group shows an increasing trend from 2017 to 2019.

Overall, Figure 5 shows the number of publications, which increased from 2016 to 2020, with a drastic increase in 2020 for the sustainability group dimension. The ESG group showed an increasing trend from 2017 to 2019. Thus, the total sustainability dimension dominated the literature by having the highest number of publications in this category.

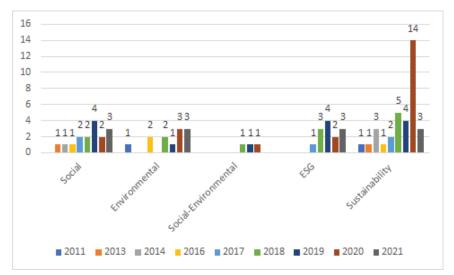


Figure 5: Distribution of Publications by Sustainability Dimension

Impact of corporate governance on sustainability performance

This study focusseds on the articles that highlighted the impact of corporate governance on sustainability performance. The articles reviewed in this study were categorized into two possible outcomes, which were positive and negative, for the pre-SDG adoption and post-SDG adoption periods. As shown in Table A (appendix), 96% of the articles revealed a positive relationship between corporate governance and sustainability performance, whereas 4% revealed a negative relationship (see Figure 6).

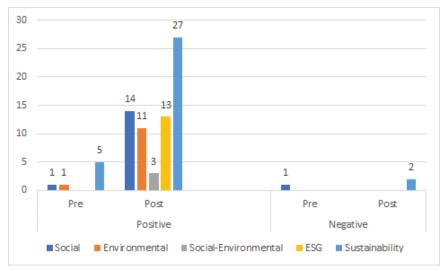


Figure 6: Impact of CG on Sustainability Performance for pre and Post SDG

The results of this study represented articles on corporate governance and sustainability from various countries over a 9-year period of observation. Despite the variety, the literature was dominated by the positive impact of corporate governance on sustainability performance. The role of corporate governance seemed to affect firm sustainability performance significantly. Sustainability performance was measured via indicators, as illustrated in Figure 5, and it is classified into five dimensions. In comparing the pre- and post-SDG adoption periods, the positive impact of corporate governance on sustainability performance was more apparent during the post-SDG adoption period than in the pre-SDG adoption period. This was because of the higher number of publications in the post-SDG adoption period due to the global awareness and enforcement from governments. Most of the researchers focussed on the topic of sustainability after the establishment of SDGs in 2015. In addition, when measuring sustainability performance, the ESG and sustainability dimensions were only found in the post-SDG adoption period. It represented the focus of the sustainability topic in the papers for that period.

For articles published in the pre-SDG period, the positive side consisted of the social and environmental dimensions, whereas the negative side consisted of the social dimension. This showed that most publications in that period solely focused on a single dimension rather than a combination. However, after the establishment of SDG in 2015, most companies and industries began to focus on achieving sustainable business in their operations. Figure 6 shows the post-SDG period, where the majority were in the sustainability dimension, followed by the social and ESG dimensions. Hence, the implementation of SDG was considered successful with the support of excellent corporate governance in the organization.

However, some studies indicated an insignificant negative impact of corporate governance on sustainability performance. Dragomir (2012) showed that responsible governance contributes to insignificant sustainability performance. The result was supported by previous literature, which stated that a company will bear a higher cost for emission reduction efforts. This indicated that the company's board of directors wisely calculated the cost or budget allocation in enforcing the green mode operations of the company, as it was very costly at that time. Although it is considered low implementation of sustainability for the pre-SDG period, two studies in the post-SDG obtained negative results. Karaman et al. (2020) found that an ineffective board of directors contributed to the significant relationship between green performance and sustainability reporting. The study became questionable as to why an inefficient board of directors could enhance sustainability reporting. One of the reasons was that the directors were not knowledgeable on CSR issues, and there was no CSR committee in the company. Only the manager controls good behavior without being influenced by the board of directors.

Another study by Onder and Baimurzin (2020) involving Turkish enterprises revealed that board size, the existence of corporate social responsibility committees, and the presence of independent board members reduced sustainability reporting in the company. The negative relationship showed that the number of members of the board of directors did not represent the quality of the members. Because most Turkish enterprises were family-owned businesses and they lacked experience and independent members.

CONCLUSION

The adoption of SDG is negotiated worldwide. It aims to face global challenges involving natural resource depletion and environmental degradation. The SDGs practices are viewed as an essential roadmap for organizations to follow since it emphasizes the need for global enterprises to be more mindful of the environment and resources of the future generation. Despite the increased attention on these issues, many organizations have shifted their focus to environmental and social concerns, which require careful consideration of the implementation, including expenditures that can affect financial performance (Muhmad and Muhamad, 2021) and sustainability performance. Thus, many researchers have begun to focus on the literature that links corporate governance and sustainable performance. In this study, the researcher identified corporate governance that fulfilled the objectives of the SDGs in terms of how their sustainability performance was affected by dividing them into pre- and post-SDG adoption periods.

Previous research found an incremental interest in corporate governance, which involved 78 publications in WoS and Scopus from 2011 to 2020. Most of the publications from the pre-SDG period used sustainability reporting scores, corporate social responsibility, and environmental disclosure. The highest measurement frequency used by previous studies was sustainability reporting scores, followed by corporate social responsibility, ESG scores, GRI sustainability reports, environmental disclosure, and others.

The empirical result showed that prior to SDG adoption, publications related to corporate governance involved the characteristics of the board structure that included board independence, CEO duality, ownership, board size, board expertise, board professionalism, designation, diversity,

and number of board meetings. The post-SDG period focused more on characteristics related to SDG implementations, such as women, the community, and transparency. This was because organizations were encouraged by governments and the UN to focus on sustainable performance, thus ensuring the existence of the organizations in the future.

The sustainability indicators in this study showed that the organizations supported the adoption of SDGs. It can be seen that there was an increase in the number of publications in the sustainability group from 2016 onwards and the ESG group from 2017 to 2019 (see Figure 5). In contrast, the lowest publication was in the social-environment dimension, which was only one publication per year from 2018 to 2020. The impact of corporate governance on sustainability performance revealed a 96% positive relationship and 4% negative relationship.

Companies also will gain advantages by integrating sustainability practices with their corporate governance and improve their operations and performance. Prior to the adoption of the SDGs, issues regarding corporate governance were more focused on the economy and the structure of corporate governance. Meanwhile, after SDG adoption, the characteristics of corporate governance have been integrated with the SDG values which included board diversity, CSR and sustainability committee, shareholder's activism, transparency and compliance. This situation showed that there were major improvements in corporate governance.

The practical and policy implications in this SDG period can guide towards a better settlement in the economy, structure of corporate governance, women, community, employee training, transparency, and shareholder activism. This systematic collection of the literature review can serve as a guide for future researchers and help organizations to grow better.

Future Direction

The majority of the publications reviewed in this study were comprised of data from developed countries, with a few of them from developing countries. Future research should fill the gap in this study by comparing the outcomes between developed countries, developing countries, and undeveloped countries to obtain a comprehensive view of sustainability practices implemented by businesses. In the context of this research, recommendations can be made for each area, emphasizing actions that can help less developed countries focus on sustainable development in businesses and personal lives.

This study solely used the WoS and Scopus databases to obtain the samples of indexed journals. Therefore, future research should consider studying articles published from indexed and non-indexed journals to obtain extensive evidence of business sustainability practices and performance before and after SDG adoption. Since this is an exploratory study and the literature search was confined to open access article sources, future studies may consider articles from open-access and restricted-access for analysis to broaden the results and findings. The sustainability and financial measures highlighted in this study are closely related to SDGs. Therefore, future research should emphasize the corporate governance indicators based on the SDGs to fill the research gap for the post-SDG adoption phase. Sustainability has become a major concern in all types of businesses. Thus, researchers must be alert and explore recent indicators crucial to the new sustainable development path.

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APPENDIX

Study	Sustainability Dimension	Finding			
Buniamin, Alrazi, Johari, & Abd Rahman (2011)	Environmental	Positive			
Eweje (2011)	Sustainability	Positive			
Dragomir, V. D. (2013)	Sustainability	Negative			
Frias-Aceituno, Rodriguez-Ariza & Garcia-Sanchez	Social	Positive			
(2013) Amran, Lee & Devi (2014)	Sustainability	Positive			
Janggu et al. (2014)	Sustainability	Positive			
Shamil et al (2014)	Sustainability	Positive			
Sharma, & Khanna (2014)	Social				
		Positive			
Glass, Cook & Ingersoll (2016)	Environmental	Positive			
Rodríguez, Del & Pérez (2016)	Social	Positive			
Salvioni, Gennari & Bosetti (2016)	Sustainability	Positive			
Trireksani & Djajadikerta (2016)	Environmental	Positive			
Ahmad, Rashid & Gow (2017)	Social	Positive			
Hossain, Momin, Rowe & Quaddus (2017)	Sustainability	Positive			
Kaymak & Bektas (2017)	Social	Positive			
Mahmood & Orazalin (2017)	Sustainability	Positive			
Nadeem, Zaman & Saleem (2017)	ESG	Positive			
Baldini, Bronzetti & Sicoli (2018	Sustainability	Positive			
Birindelli, Dell'Atti, Iannuzzi & Savioli (2018	ESG	Positive			
Chong, Ong & Tan (2018)	ESG	Positive			
Cucari, Falco & Orlando (2018)	ESG	Positive			
Garas, & ElMassah (2018)	Social	Positive			
Hu & Loh (2018)	Sustainability	Positive			
Hussain, Rigoni & Orij (2018)	Sustainability	Positive			
Kim, Sheu & Yoon (2018)	Environmental	Positive			
Mahmood, Kouser, Ali, Ahmad & Salman (2018)	Sustainability	Positive			
Masud, Nurunnabi, & Bae (2018)	Environmental	Positive			
Mohd-Said, Shen, Nahar & Senik (2018)	Social	Positive			
Mudiyanselage (2018)	Sustainability	Positive			
Soh & Martinov-Bennie (2018)	Social-Environmental	Positive			
AL Fadli, Sands, Jones, Beattie & Pensiero (2019)	Social	Positive			
Czernkowski, Kean & Lim (2019)	Social-Environmental	Positive			
Miras-Rodríguez, Martínez-Martínez & Escobar-Pérez	Social				
(2018)		Positive			
García-Sánchez, Hussain, & Martínez-Ferrero (2019)	Social	Positive			

Table A: List of Studies and Results in Corporate Governance and Sustainability Performance

Ismail & Latiff (2019)	ESG	Positive
Ismail, Adnan, Clark & Said (2019)	ESG	Positive
Jan, Marimuthu & Hassan (2019)	Sustainability	Positive
Jouber (2019)	Sustainability	Positive
Kılıç & Kuzey (2019)	Environmental	Positive
Naciti (2019)	Sustainability	Positive
Pareek, Pandey & Sahu (2019)	Sustainability	Positive
Robiyanto, Anggraeni, Nugraha & Lako (2019)	Social	Positive
Shakil, Mahmood, Tasnia & Munim (2019)	ESG	Positive
Tseng, Tan, Jeng, Lin, Negash & Darsono (2019)	ESG	Positive
Abdulrahim, Sukoharsono, Saraswati, & Subekti (2020)	Sustainability	Positive
Adedeji, Ong, Uzir & Abdul Hamid (2020)	Sustainability	Positive
Agyemang, Yusheng, Ayamba, Twum, Chengpeng &	,	
Shaibu (2020)	Environmental	Positive
Almagtome, Khaghaany & Önce (2020)	Sustainability	Positive
Amidjaya & Widagdo (2020)	Sustainability	Positive
Ammer, Aliedan & Alyahya (2020)	Environmental	Positive
Correa-Garcia, Garcia-Benau & Garcia-Meca (2020)	Sustainability	Positive
Corvino, Doni, & Martini (2020)	Sustainability	Positive
Fahad & Rahman (2020)	ESG	Positive
Haider & Nishitani (2020)	Sustainability	Positive
Hsieh, Claresta & Bui (2020)	Environmental	Positive
Isnurhadi, Oktarini, Meutia & Mukhtaruddin (2020)	Sustainability	Positive
Jamil, Ghazali & Nelson (2020)	Sustainability	Positive
Karaman, Kilic, & Uyar (2020)	Sustainability	Negative
Kılıç & Kuzey (2020)	Sustainability	Positive
Martínez-Ferrero & García-Meca (2020)	Sustainability	Positive
Önder & Baimurzin (2020)	Sustainability	Negative
Orazalin (2020)	Social	Positive
Huynh (2020)	Social-Environmental	Positive
Romano, Cirillo, Favino & Netti (2020)	ESG	Positive
Rubino & Napoli (2020)	Social	Positive
Zaid, Wang, Adib, Sahyouni & Abuhijleh (2020)	Social	Positive
Adelowotan & Udofia (2021)	Sustainability	Positive
Formigoni, Segura & Gallego-Álvarez (2020)	Social	Positive
Gerged, A. M. (2021)	Environmental	Positive
Gerged, Albitar & Al⊡Haddad (2021)	Environmental	Positive
Kim & Li (2021)	ESG	Positive
Kouaib, Bouzouitina and Jarboui (2021)	Sustainability	Positive
Noor, Arshad, Omar & Muda (2021)	Sustainability	Positive

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Orazalin & Mahmood (2021)	ESG	Positive
Rezaee, Alipour, Faraji, Ghanbari & Jamshidinavid (2020)	Environmental	Positive
Tibiletti, Marchini, Furlotti & Medioli (2021)	Social	Positive
Castillo-Merino & Rodríguez-Pérez (2021),	ESG	Positive
Zaman, Nadeem & Carvajal (2021)	Social	Positive