

Scoping the Mediating Role of Corporate Governance on the Relationship Between Sustainability and Financial Performance of Firms

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Abstract

Corporate sustainability is becoming pervasive, resulting in the intertwining of governance mechanisms at the organizational level, which is ultimately responsible for sustainability and the financial performance of firms. The objective of this study is to systematically document the extent to which various corporate governance mechanisms mediate the relationship between sustainability and the financial performance of firms. Following a scoping review approach, this paper analyzes a final sample of 91 studies for the period 2016–2022. Drawing from the cluster analysis technique, this paper identifies three focus areas: 1) board-level governance, 2) operational-level governance, and 3) assurance-level governance. The results suggest that these governance mechanisms have become increasingly significant for firm performance. In addition to consolidating the existing knowledge and frameworks in which governance and sustainability research intersect, the findings yield policy implications for firms seeking to integrate sustainability into their operations. This study contributes to the literature by being the first of its kind to systematically document the mediating role of governance on the relationship between sustainability and the financial performance of firms. It concludes that though existing literature provides a good overview of emerging governance strategies in relation to firm performance, there is a need for more deductive evidence in the literature.

Keywords: corporate governance, corporate sustainability, financial performance, sustainability performance

1. Introduction

Corporate sustainability (CS), the control mechanisms that safeguard the interests of shareholders and other stakeholders (Daily et al., 2003) has gained considerable importance as firms commit to measuring and reporting their sustainability performance, understanding interconnectedness (i.e., economy, society, and environment) and equitably allocating resources (Hawken, 1994). Dyllick and Hockerts (2002, p. 131) define CS as “meeting the needs of a firm’s direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities, etc.) without compromising its [a corporate firm’s] ability to meet the needs of future stakeholders as well.” This implies that business processes must be considered cyclical rather than linear, such that one firm’s waste must become another firm’s resource (Capra & Pauli, 1995).

Over the past few decades, CS has become more central to business practices from not only an idealistic standpoint but also regarding the financial bottom line, legal performance, competitive positioning, and the overall long-term future of corporate firms (Schaltegger & Wagner, 2017). Specifically, factors such as climate change, the evolution of legal tools like executive compensation, and the increased public interest in sustainability have placed a greater demand on firms to act more sustainably (Porter & Kramer, 2011). In response, CS has evolved immensely over time, with firms now exploring ways to generate sustainable long-term results while satisfying diverse stakeholders and working towards the greater good for their business, the environment, and the community (Bansal & Song, 2017). As such, firms seek to integrate sustainability into their business strategy while creating opportunities to pursue innovation and create value in corporate design processes (McDonough & Braungart, 2002).

Governance processes have also transcended product redesign to the reimagining of business processes for holistic change (Raworth, 2017). The parallel evolution of governance has created mechanisms to monitor corporate actions and create business strategies that consider all aspects of sustainability (Werbach, 2009). Firms

seeking to integrate sustainability into their corporate activities must engage in strategic decision-making at the organizational level (Bonn & Fisher, 2011) and adopt new processes to transform their relationships with the environment and society (Domingues et al., 2017).

A wide range of case studies shows the connection between sustainability-focused corporate governance (CG) and the financial performance of firms (Aguilera et al., 2021; Aragon-Correa et al., 2015). A good example of effective CG at play is the case of Unilever, the global consumer goods firm, which strategically created Unilever's Sustainable Living Brands. These Sustainable Living Brands have grown faster than other aspects of the business and contributed significantly to the company's recent growth (Eccles et al., 2014). On the other hand, corporate managers may not always act in the best interest of the stakeholders, as is evident in the Volkswagen emissions scandal (Rhodes, 2016). In 2015, the United States (US) Environmental Protection Agency (EPA) issued a notice of violation against Volkswagen for deliberately circumventing vehicle emissions testing. Consequently, the share price of Volkswagen fell significantly, causing a crisis in the automotive sector.

As such, CG may be either beneficial or detrimental to sustainability and shareholder value. Where effective, CG mechanisms can protect the social and environmental aspects of business activities from opportunistic behaviors (Wu & Zhou, 2022) while fostering firms' sustainability activities. This can in turn enhance corporate performance and shareholder value (Fernando et al., 2019). CG practices can also enhance business performance (Park & Berger-Walliser, 2015), attract interest from shareholders (Konadu et al., 2021) and provide a competitive advantage (Rabaya & Saleh, 2021). Considering this, there is a need for a deeper understanding of the seemingly anecdotal relationship between corporate governance and firm performance. A systematic analysis of this relationship can help guide more precise corporate decision-making.

1.1 Background

The concept of corporate sustainability (CS) focuses on the environmental and social aspects of sustainability (Santoyo-Castelazo & Azapagic, 2014). While environmental sustainability focusing on creating operational efficiencies that leave a minimal ecological imprint (McDonough & Braungart, 2013), social sustainability focuses on the creation of equal opportunities for workers, suitable working conditions, health and safety, and fulfilling social projects (Epstein, 2017). The interaction between the environmental and social aspects of sustainability helps firms to sustain their operations and relationships with various stakeholders in ever-changing market dynamics (Trancoso, 2021).

Thus, the construct of corporate sustainability performance (CSP) aims to integrate both the social and environmental aspects of CS. Van Marrewijk (2003, p. 102) defines CSP as "demonstrating the inclusion of social and environmental concerns in business operation and in its interactions with stakeholders." Based on this perspective, the CSP of a firm integrates the complex web of environmental and social challenges in its business operations while achieving higher financial performance. CSP supports an integrated focus on firm performance criteria (Otley, 2001), bringing positive changes to organizational processes, and transcending profit maximization to a broader inclusion of sustainability. Firms with effective organizational controls are better prepared to set their performance goals and are more diligent in monitoring their corporate activities (Amaratunga & Baldry, 2002).

To meet the interests of shareholders as well as other stakeholders, it is important to align sustainability-focused governance activities with those firmly focused on firms' financial profit and growth (Bansal & DesJardine, 2014). To achieve this, sustainability goals must be embedded in a firm's strategic business plan (Labuschagne et al., 2005). The integration of sustainability into business strategies also requires an effective performance measurement system (PMS) to track firms' progress in this regard (Gond et al., 2016). CG thus extends beyond capitalizing on the economic well-being of shareholders (Scherer & Palazzo, 2011).

In practice, however, integrating sustainability into business practices can be challenging and requires clarity on which sustainability metrics are relevant to the business's brand, values, and strategic goals. Therefore, despite its significance, firms continue to struggle to develop a consensus framework for measuring and managing CSP (Gond et al., 2016). Often, firms may adopt models and frameworks proposed by specialized agencies such as the Dow Jones Sustainability Indices (DJSI) and the Global Reporting Initiative (GRI) (Antolín-López et al., 2016). Firms may also develop tailored models to measure their CSP (Zellweger et al., 2013), most of which are grounded in the Triple Bottom Line (TBL) concept (Elkington, 1998). The TBL concept suggests that firms' business performance should be based on three pillars: economic, environmental, and social. This concept allows a firm's stakeholders to look beyond their traditional financial success metrics (Hahn et al., 2015).

The varying approaches to sustainability adoption and measurement also suggest a lack of rigor and comprehensiveness in the field, as is evidenced by a wide range of cases where firms only choose the sustainability characteristics pertinent to their situation (Al-Shaer & Hussainey, 2022). Therefore, on one hand, firms need appropriate organizational frameworks to follow and track sustainability and financial performance.

Examples such as the Volkswagen scandal and the Unilever case study reinforce the link between CG and financial performance, especially in today's climate. On the other hand, the relationship between CG efforts aimed at sustainability and financial performance remains a black box, unable to inform effective business decision-making with the rigor required for such consequential decisions.

As these anecdotal case studies also suggest, the existing literature is replete with examples on polar ends of the spectrum, which, while informative and inspirational/detering, are difficult to apply realistically. This complicates the process for firms to identify crucial aspects of corporate governance and determine how to direct their limited resources towards achieving the most optimal results. This paper aims to move the discourse on sustainability-related CG and firm performance by introducing more analytical considerations of the links between these two important aspects of business operations. Below, the theoretical perspectives that have informed the two concepts are discussed, illustrating the gaps in the discourse that this study seeks to fill.

1.2 Theoretical Perspectives and the Role of Corporate Governance

The role of governance in sustainability and the financial performance of firms is a topic of interest for many researchers (Naciti et al., 2021). Corporate governance (CG) is defined as a set of organizational rules and control mechanisms that guide managers to fulfill the interests of shareholders and other stakeholders (Cadbury, 1993). Conventionally, CG is construed as a governing code intended to safeguard shareholders' investments from opportunistic managers (Naciti et al., 2021). However, CG is increasingly used to examine diverse stakeholder interests, and is often developed in response to the relationships between shareholders and other firm stakeholders (Lee et al., 2022) and the rights and responsibilities among these stakeholders (Ditlev-Simonsen & Midttun, 2011).

CG may also be viewed from an Agency Theory perspective, which focuses only on shareholder returns (e.g., Jensen & Meckling, 1976). There could be potential disputes between shareholders and managers due to differing interests and information asymmetry. Hence, the role of CG could be used to alleviate managerial opportunism and align manager-shareholders' interests. This perspective generally takes a narrower approach to capitalism and may not fully integrate sustainability into a firm's business strategy. Yet, it remains critical to understand how agency conflicts on sustainability issues can be resolved effectively.

Since Agency Theory is grounded in the assumption of managerial opportunism and a potential conflict between manager-shareholders' interests (i.e., principal-agent problem), Stakeholder Theory instead considers the interests of shareholders and other stakeholders for economic, social, and environmental factors to achieve organizational success. However, this perspective can be seen as complementary to Agency Theory, in that manager interest may or may not be based on maximizing the social and environmental performance of firms.

Institutional Theory offers another theoretical perspective that can be used to explore the effectiveness of CG mechanisms in adopting pro-sustainability decisions (Aguilera & Jackson, 2003). Institutional pressures motivate firms' decisions pertaining to environmental and social sustainability (Aguilera-Caracuel et al., 2013; Berrone et al., 2013). Firms that encounter normative pressures regarding sustainability issues are more expected to participate in sustainability practices to avoid penalties and standardize their sustainability performance.

While various theoretical perspectives are evident in the existing literature, the three above demonstrate how CG has evolved from a focus on the asymmetry between manager and shareholder interests, with a narrow focus on profit, to a broader set of stakeholder relationships. With this broader perspective, too narrow of a focus on profit may jeopardize the company's brand and legal wellbeing if other stakeholder concerns are compromised. This suggests a need to reframe stakeholder interests beyond short-term profits to long-term sustainability, while also redefining managerial opportunism, beyond the concealment of profits to the concealment of information on the firms' social and environmental performance.

In recent times, scholars have drawn attention to this gap in understanding the practical relevance of these concepts. Aguilera et al. (2007) noted that the relationship between CG and corporate financial performance (CFP) can be complex and unclear and suggests the need for a multilevel theory to capture how corporate social responsibility may impact CFP. This is also echoed in Eccles et al. (2014), who while exploring the connections between both concepts, also note that these relationships are complex. Jamali et al. (2008), Jo et al. (2011), and Lins et al. (2017) also espouse the same thoughts. To complement these deductive concepts, this paper will use an inductive approach to understand and clarify these concepts in today's corporate environment, thus paving the way for more precise framework-building and decision-making.

1.3 Problem Statement and Research Questions

The progression of CG, on the one hand, and sustainability, on the other, is repeatedly referenced in the existing literature. However, there is a gap in the literature on corporate governance on firms' sustainability performance, primarily exploring how and to what extent effective CG mechanisms help firms achieve their sustainability goals and improve their financial performance. This paper aims to systematically examine if and to what extent

various CG mechanisms mediate the relationship between sustainability and the financial performance of firms. The intent of this paper is not to assess the connection between sustainability and financial performance but to seek a higher level of precision by identifying the CG mechanisms that affect a firm's ability to achieve its sustainability targets and ultimately ensure higher financial performance.

To this end, we conducted a scoping review of CG in the context of the CSP-CFP relationship. This scoping review considered research articles from 2016–2022. This time frame was chosen due to the significant increase in literature on this topic during this seven-year period. This paper answers the following research questions: (1) Which CG mechanisms mediate the relationship between sustainability and the financial performance of firms? and (2) to what extent do these CG mechanisms affect sustainability and the financial performance of firms?

Theoretically, this paper draws on CG literature to offer a holistic viewpoint on “which” and “to what extent” firms are integrating sustainability into their core strategy while attempting to improve their overall financial performance. By exploring which” and “to what extent” various business control mechanisms have influenced the CSP-CFP relationship, this study 1) presents a unique cluster analysis based on the extant literature to capture the current state of knowledge, 2) identifies CG impacts on sustainability and financial performance of firms, and key gaps within the existing literature, and 3) expands on existing knowledge of CSP-CFP links through effective CG mechanisms to explore further opportunities in this research field.

This paper is arranged as follows: Section 2 presents the methods, including search strategies and classification criteria. Section 3 presents the results and analysis, including cluster identifications. Finally, Section 4 covers the discussion around key focus areas, the path of future research and policy implications.

2. Materials and Methods

This paper systematizes the current literature on CG mechanisms focused on sustainability and their relationship with the performance of firms using bibliometric analysis. The scope of this study is organized through mapping concepts in the fields of CG and CS, involving the explanation of reporting strategies and step-by-step worksheets to safeguard the clarity, consistency, and repeatability of methods. This paper followed the five-step process articulated by Arksey and O'Malley (2005), including 1) classifying the scope of research on CG and CS; 2) scale identification with the help of item generation, refining the content and analysis of the preliminary data; 3) identifying relevant papers which match the inclusion-exclusion criteria; 4) data extraction including the descriptive summary of the results; and 5) reporting the findings and implications for future research. By exploring “how” and “to what extent” various CG mechanisms have influenced the CSP-CFP relationship, this paper attempts to understand the antecedents and determinants in this relationship and thus make precise recommendations for future research directions on this topic.

2.1 Search Strategies

The search strategy included the classification of pertinent research content (i.e., peer-reviewed articles), which was defined and delimited. The literature on CG mechanisms concerning the sustainability and business performance of firms was restricted to scientific journals. Then, the content analysis was performed using key terms in those journals (Dixon-Woods et al., 2006). Key terms were used for the search in abstracts, titles, and keywords. The Boolean operators were used, allowing the formation of a distinct search algorithm in the following way:

TS = (“sustainability* performanc*” OR “sustainability* dimension*” OR “environ* performanc*” OR “environ* ind*” OR “environ* dimensio*” OR “socia* performanc*” OR “socia* ind*” OR “socia* dimensio*”) AND TS = (“financi* performanc*” OR “financi* ind*” OR “financi* dimension*”) AND TS = (“compan*” OR “firm*” OR “organization*” OR “business*”) AND TS = (“corpor* govern*” OR “board” OR “director” OR “manage*” OR “institu*govern*” OR “assurance”) AND TS = (“stakeholder theory” OR “stewardship theory” OR “agency theory” OR “resource*depend*theory”)

Four clear boundaries were defined:

- 1) The analysis included mainly peer-reviewed articles in English with an emphasis on governance and sustainability.
- 2) Only articles that empirically integrate sustainability into a firm's business strategy were considered. The relevant literature was identified based on empirical research and not conceptual research to understand sustainability and the financial performance of firms.
- 3) Articles that focused on the traditional financial performance of firms but did not consider economic sustainability were not identified as relevant literature and were excluded from the analysis.
- 4) Empirical studies that were restricted to certain geographic markets and not generalizable were excluded, as they did not contribute to the integration of sustainability into the financial performance of firms at large.

Using three scientific databases (i.e., Science Direct, Scopus, and Web of Science), the initial search consisted of terms within the categories of “business,” “management,” “environmental studies,” “governance,” “environmental sciences,” “business finance,” and “sustainability.” This led to 990 peer-reviewed articles published between 2016 and 2022 being retrieved from the three databases. The preliminary vetting and elimination of duplicate articles left 271 articles for consideration. After applying the inclusion-exclusion criteria, the final data set comprised 91 articles. Figure 1 (below) illustrates the screening process.

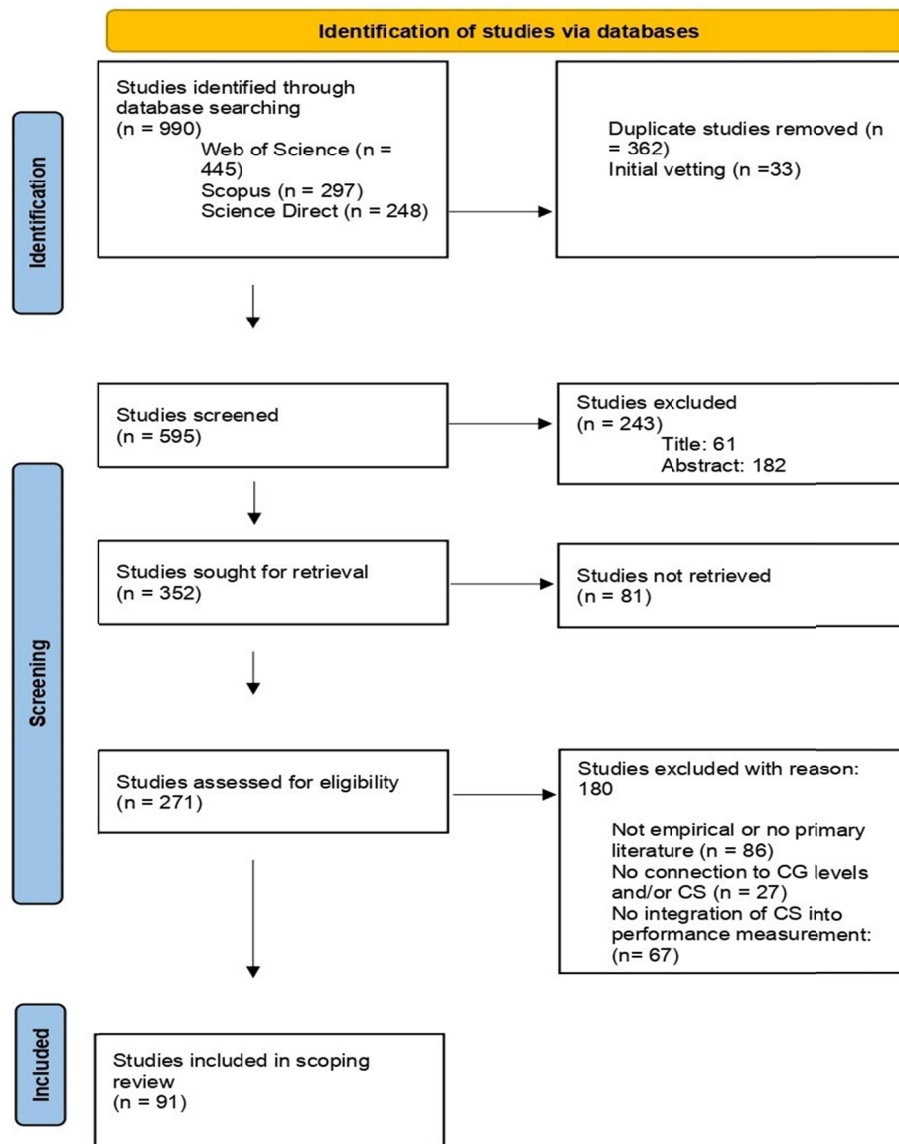


Figure 1. Flowchart of Record Identification and study selection

2.2 Classification Criteria and Synthesizing the Literature

After the identification of studies, the classification of the selected literature was conducted. The primary CG constructs mediating the CSP-CFP relationship were coded in this step while the selected studies were reviewed. This paper used NVivo 12 to synthesize the literature and visualize the data (i.e., encoding and organizing analytical categories into a hierarchical structure). VOSviewer 1.6.18 was then used to analyze the data co-occurrence and cluster identification. Here, the co-occurrence of keywords was analyzed by building keyword tree node structures. This approach helped to identify various CG mechanisms to assess the CSP-CFP relationship. When constructing the cluster maps, the association strength normalization technique was used by merging small clusters using the minimum cluster size filter (Eck & Waltman, 2009). Drawing from the cluster identification, the analytical review was then completed for assessing the impact of the selected body of literature.

3. Results and Analysis

This section first discusses a general overview of the studies gathered, followed by the categorization and coding of the identified studies. Drawing on this coding, several structural dimensions were identified, including CG at various organizational levels, theoretical perspectives, and performance indicators. The last part of this section discusses cluster analysis, which was performed to identify key structures within the data.

3.1 Distribution of Studies per Year

When analyzed by year, the results show a substantial increase in interest in this research topic since 2016. The trend also highlighted that more papers were published in recent years, as shown in Figure 2.

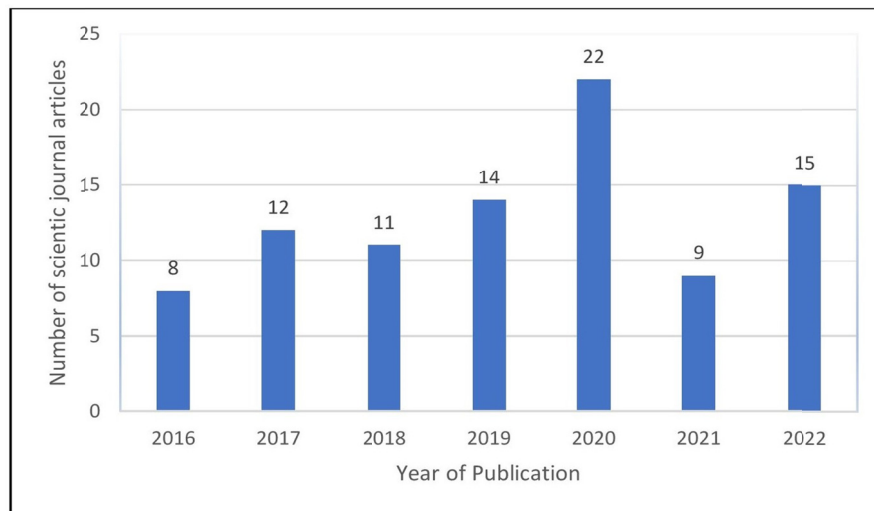


Figure 2. The distribution of articles per year

3.2 Distribution of Studies by Country

The findings of this study showed that the data were geographically diverse. There were 69 papers (76%) representing developed economies and 22 papers (24%) representing developing economies. The high degree of geographic disparity was mainly dependent on more sustainability activities of firms in the developed economies. The results of this paper showed that the United States has the greatest number of articles, followed by China, the UK, and Italy, as shown in Figure 3.

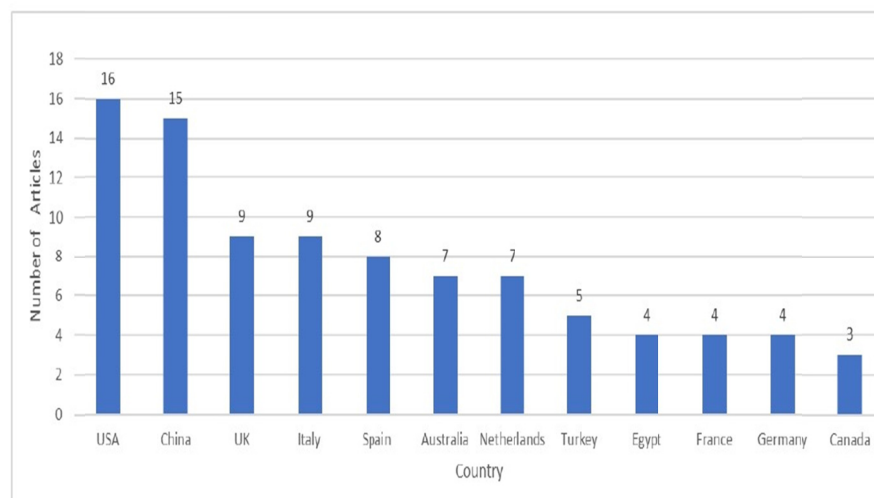


Figure 3. The distribution of articles per country

3.3 The Building Blocks of the CSP-CFP Relationship

This paper focuses on the mediating role of various CG mechanisms in the CSP-CFP relationship. In the first step, various CG constructs were identified in the body of literature, attributed to the fact that potential CG mediators may have varied impacts depending on how CG constructs mediated the CSP-CFP relationship. From a meticulous assessment of the literature, three levels of CG were coded: board-level governance, operational-level governance, and assurance-level governance. This paper also found that the choices of CG constructs used to operationalize the CSP-CFP relationship were grounded in different theoretical perspectives, for example, Agency Theory, Stakeholder Theory, Institutional Theory, etc. This paper also found performance indicators exclusively measuring the mediating effect of CG mechanisms on the CSP-CFP relationship. Table 1 outlines the classification of the papers incorporated in the review.

Table 1. Classification of Papers

CG Dimensions	Description	Mediators	Theoretical Perspectives	Key Performance Indicators	Studies
Board-level Governance	The effectiveness of boards and characteristics of their composition on the sustainability and financial performance of firms	Board Independence	Agency Theory - <i>Potential disputes between shareholders and managers because of differing interests and information asymmetry</i>	Environmental and Social Sustainability Indicator	Aksoy et al. (2020); Aladwey et al. (2022); Alipour et al. (2019); Cucari et al. (2018); Cui et al. (2020); Disli et al. (2022); Hussain et al. (2018); Naciti (2019); Omran et al. (2021); Pant & Nidugala (2022)
		Board Size		Environmental and Social Sustainability Indicator	Kaymak & Bektas (2017); Koh et al. (2022); Kumari et al. (2022); Lin & Nguyen (2022); Masoud & Vij (2021); Masud et al. (2018); Muñoz (2020); Pasko et al. (2022); Uyar et al. (2021); Vecco et al. (2021)
		Board Gender		Environmental Indicator	Arayakarnkul et al. (2022); Bristy et al. (2021); Carmo et al. (2022); Cordeiro et al. (2020); Elmagrhi et al. (2019); Islam et al. (2022); Lu et al. (2019); Manita et al. (2018); Zaid et al. (2020); Zhu et al. (2022)
		Board Authority		Social Sustainability Indicator	Chams & García-Blandón (2019); Haladu & Salim (2016); Helfaya & Moussa (2017); Linh-TX et al. (2021); Mbo & Adjasi (2017); Pearce & Patel (2018); Peng & Zhang (2022); Rao & Tilt (2016); Sarhan & Al-Najjar (2022); Yakob & Abu Hasan (2021);
Operational-level Governance	Firms' operational effectiveness in terms of strengthening CSP-CFP relationships	Product Design	Stakeholder Theory - <i>Interests of shareholders and other stakeholders for economic, social, and environmental reasons to achieve organizational success</i>	Environmental Indicator	Badurdeen et al. (2018); Cheng (2020); Kennedy et al. (2017); Li et al. (2016); Maletić et al. (2016); Morioka & Carvalho (2016); Petersen (2021); Schöggl et al. (2017); Shahzad et al. (2020); Villena et al. (2021)
		Business Process Improvement		Environmental and Social Sustainability Indicator	Agyabeng-Mensah et al. (2020); Bojnec & Tomšič (2021); Chkanikova & Kogg (2018); Chu et al. (2019); Khorram Niaki et al. (2019); Shafiq et al. (2017); Singh & Vinodh (2017); Sudarto et al. (2017); Wen et al. (2022); Wiengarten et al. (2017); Zhang (2022)
		Resource Efficiency		Environmental Indicator	Al-Minhas et al. (2020); Bergmann et al. (2017); Jiang et al. (2021); Koh et al. (2022); Koh et al. (2016); Kwon & Lee (2019); Sharma et al. (2020); Sueyoshi & Goto (2019); Xia et al. (2020); Yang et al. (2020)

Assurance-level Governance	The role of assurance service providers on the CSP-CFP relationship	Audit Committees	Institutional Theory - <i>The effectiveness of regulatory and normative pressures in adopting decisions that promote business success</i>	Environmental and Social Sustainability Indicator	Appuhami & Tashakor (2017); Buallay & Al-Ajmi (2020); Buerthey et al. (2020); Chintrakarn et al. (2016); Garcia et al. (2018); Handayati et al. (2022); Pucheta-Martínez et al. (2019); Raimo et al. (2021); Rawi & Muchlish (2022); Tumwebaze et al. (2022)
		Assurance Experts		Environmental Indicator	Al-Shaer & Zaman (2019); Aureli et al. (2020); Braam et al. (2016); Dutta (2020); García - Sánchez et al. (2019); Braam & Peeters (2018); Martínez-Ferrero & García-Sánchez (2017); Reimsbach et al. (2018); Rossi & Tarquinio (2017); Sheldon & Jenkins (2020)

3.4 CG Dimensions

The distribution of the scientific journal articles based on various CG dimensions is shown in Figure 4. In 44% of the cases (40 articles), the firms' sustainability and financial performance were observed while considering the effectiveness of boards and the characteristics of their composition. A large number of papers discussed how gender parity at the board level addressed various social and environmental issues (Araya-karnkul et al., 2022; Bristy et al., 2021; Carmo et al., 2022; Cordeiro et al., 2020; Elmagrhi et al., 2019; Islam et al., 2022; Lu et al., 2019; Manita et al., 2018; Zaid et al., 2020; Zhu et al., 2022). The empirical support was exhibited by focusing on a formative association between female board directors and socio-environmental sustainability. A few papers also discussed the significant role played by independent directors on the board (e.g., Aksoy et al., 2020; Aladwey et al., 2022; Alipour et al., 2019; Cucari et al., 2018; Cui et al., 2020; Disli et al., 2022; Hussain et al., 2018; Naciti, 2019; Omran et al., 2021; Pant & Nidugala, 2022). These papers explored how independent directors addressed agency problems while promoting social and environmental sustainability and achieving higher financial performance. In addition, other papers discussed board authority (e.g., Chams & García-Blandón, 2019; Haladu & Salim, 2016; Helfaya & Moussa, 2017; Linh-TX et al., 2021; Mbo & Adjasi, 2017; Pearce & Patel, 2018; Peng & Zhang, 2022; Rao & Tilt, 2016; Sarhan & Al-Najjar, 2022; Yakob & Abu Hasan, 2021) and board size (e.g., Kaymak & Bektas, 2017; Koh et al., 2022; Kumari et al., 2022; Lin & Nguyen, 2022; Masoud & Vij, 2021; Masud et al., 2018; Muñoz, 2020; Pasko et al., 2022; Uyar et al., 2021; Vecco et al., 2021) to examine their effect on the CSP-CFP relationship.

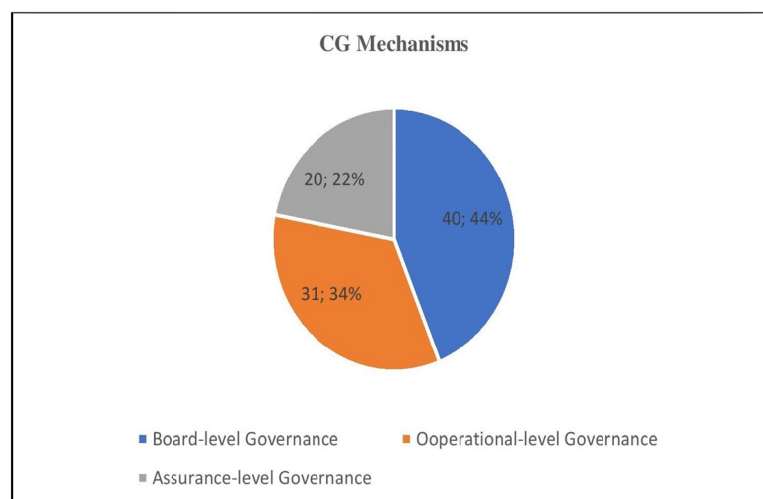


Figure 4. The distribution of articles per CG Mechanism

In 34% of the cases (31 articles), the firms' sustainability and financial performance were observed through their operational effectiveness. Most of these papers discussed proactive firms' design strategies to transform their business operations (e.g., Badurdeen et al., 2018; Cheng, 2020; Kennedy et al., 2017; Li et al., 2016; Maletič et al., 2016; Morioka & Carvalho, 2016; Petersen, 2021; Schögl et al., 2017; Shahzad et al., 2020; Villena et al.,

2021). Some papers also evaluated the operational excellence of financial intermediaries that embedded sustainability in a firm's core business strategy (e.g., Agyabeng-Mensah et al., 2020; Bojnec & Tomšič, 2021; Chkanikova & Kogg, 2018; Chu et al., 2019; Khorram Niaki et al., 2019; Shafiq et al., 2017; Singh & Vinodh, 2017; Sudarto et al., 2017; Wen et al., 2022; Wiengarten et al., 2017; Zhang, 2022). Likewise, some papers discussed resource efficiency mediating the CSP-CFP relationship (e.g., Al-Minhas et al., 2020; Bergmann et al., 2017; Jiang et al., 2021; Koh et al., 2022; Koh et al., 2016; Kwon & Lee, 2019; Sharma et al., 2020; Sueyoshi & Goto, 2019; Xia et al., 2020; Yang et al., 2020).

Lastly, in 22% of the cases (20 articles), the firms' sustainability and financial performance were observed while considering assurance mechanisms. Most papers observed how external assurance mechanisms could be effective instruments in improving the credibility of firms' reporting systems (e.g., Al-Shaer & Zaman, 2019; Aureli et al., 2020; Braam et al., 2016; Dutta, 2020; García - Sánchez et al., 2019; Geert Braam & Peeters, 2018; Martínez-Ferrero & García-Sánchez, 2017; Reimsbach et al., 2018; Rossi & Tarquinio, 2017; Sheldon & Jenkins, 2020). Some other papers discussed the firms' tendencies to assure their sustainability reports, impacting their financial performance (e.g., Dwekat et al., 2022). In other papers, the role of audit committees assuring sustainability reporting, which in turn improved the financial performance of firms was observed (e.g., Appuhami & Tashakor, 2017; Buallay & Al-Ajmi, 2020; Buerthey et al., 2020; Chintrakarn et al., 2016; Garcia et al., 2018; Handayati et al., 2022; Pucheta-Martínez et al., 2019; Raimo et al., 2021; Rawi & Muchlish, 2022; Tumwebaze et al., 2022).

3.5 Theoretical Perspectives

This review also illustrated how the research context evolved to include various theoretical perspectives, as shown in Figures 5 and 6. The findings presented the stated theory for each of the 91 papers, from which 53 papers (58%) adopted a single theory as a foundation, 15 papers (17%) used a mix of two or three theories, and 23 papers (25%) did not explicitly state any theoretical framework.

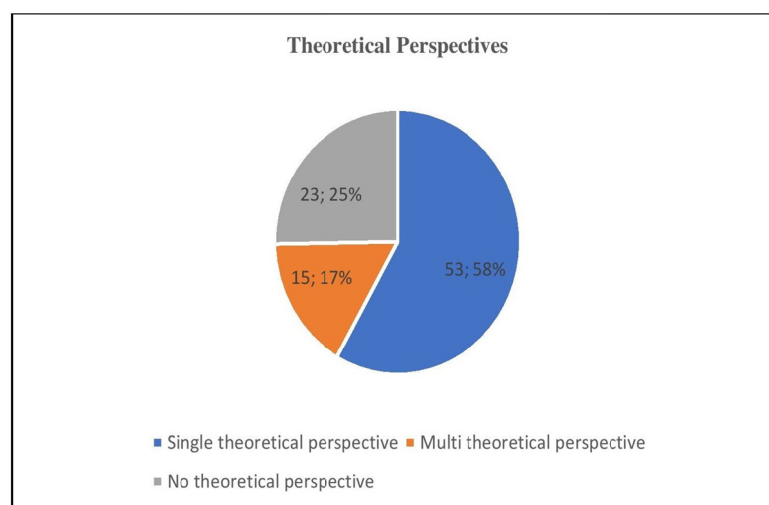


Figure 5. The distribution of articles from a theoretical perspective

Agency Theory was the most prominent theoretical framework, featuring in thirty-five articles (38%) connecting CSP and CFP mediated through various CG mechanisms. In second place was Stakeholder Theory, with 21 articles (23%), and in third place was Institutional Theory, with 12 articles (13%). Other theories, such as Resource Dependency Theory, Legitimacy Theory, and Stewardship Theory, were also used in eight articles (9%). Fifteen articles (17%) did not affirm a theoretical perspective.

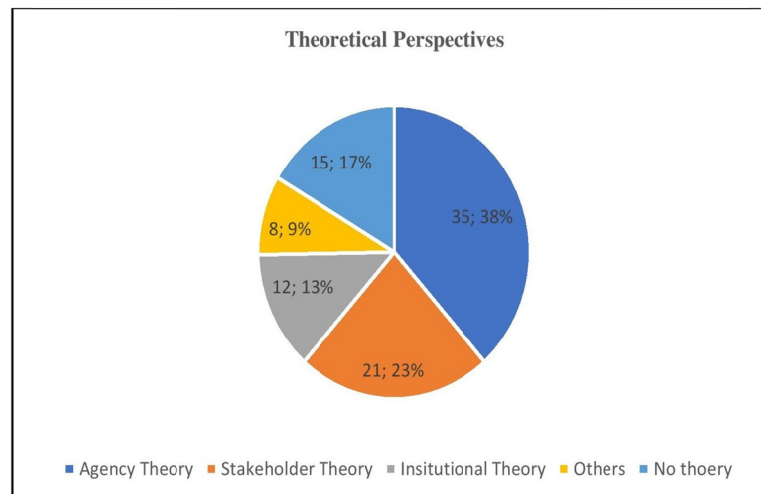


Figure 6. The distribution of theories

3.5.1 Performance Indicators

Although the general trend of measuring CSP cannot be precisely observed on a common measurement scale, most papers used the necessary weight factors to incorporate sustainability performance indicators in their projected composite index, as shown in Figure 7. In terms of adopting a method to measure CSP, 32 articles (35%) focused on both social and environmental sustainability. These articles combined social and environmental sustainability indicators into a common measurement unit, i.e., CSP. 24 articles (26%) considered social sustainability their primary indicator of CSP. In comparison, 35 articles (39%) regarded environmental sustainability as their main method, as these papers focused mainly on environmental protection issues and the use of renewable natural resources to measure CSP.

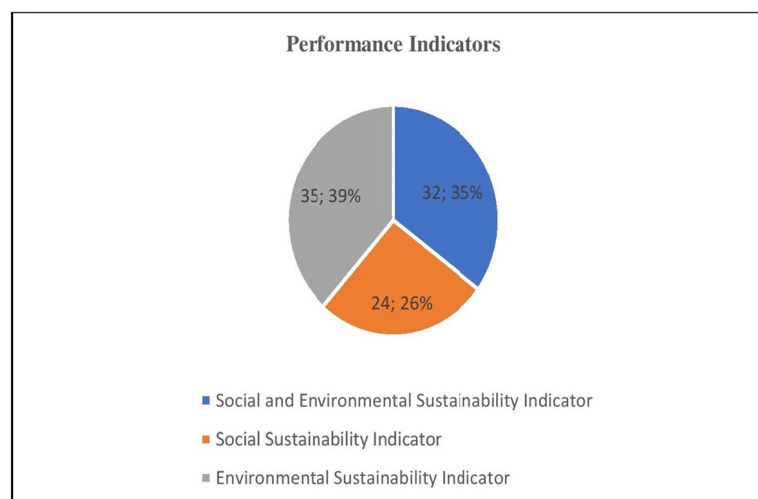


Figure 7. The distribution of articles per performance indicator.

3.6 Cluster Identification

This paper used a cluster analysis technique to identify critical topics in governance and sustainability. VOSviewer 1.6.18 was used to perform cluster analysis based on keywords, titles, and abstracts for more reliable results. The keywords with high weights were counted more heavily than those with low weights, which was helpful in getting an overview of the significant areas of the map for each separate cluster. The minimum number of occurrences of a keyword was 2. Out of 577 keywords, 112 met the threshold. For each of the 112 keywords, the total strength of the co-occurrence links with other keywords was calculated. In the examination, the small clusters were merged, and this paper recognized three closely-knit focus areas colored in red, green, and blue in Figure 8.

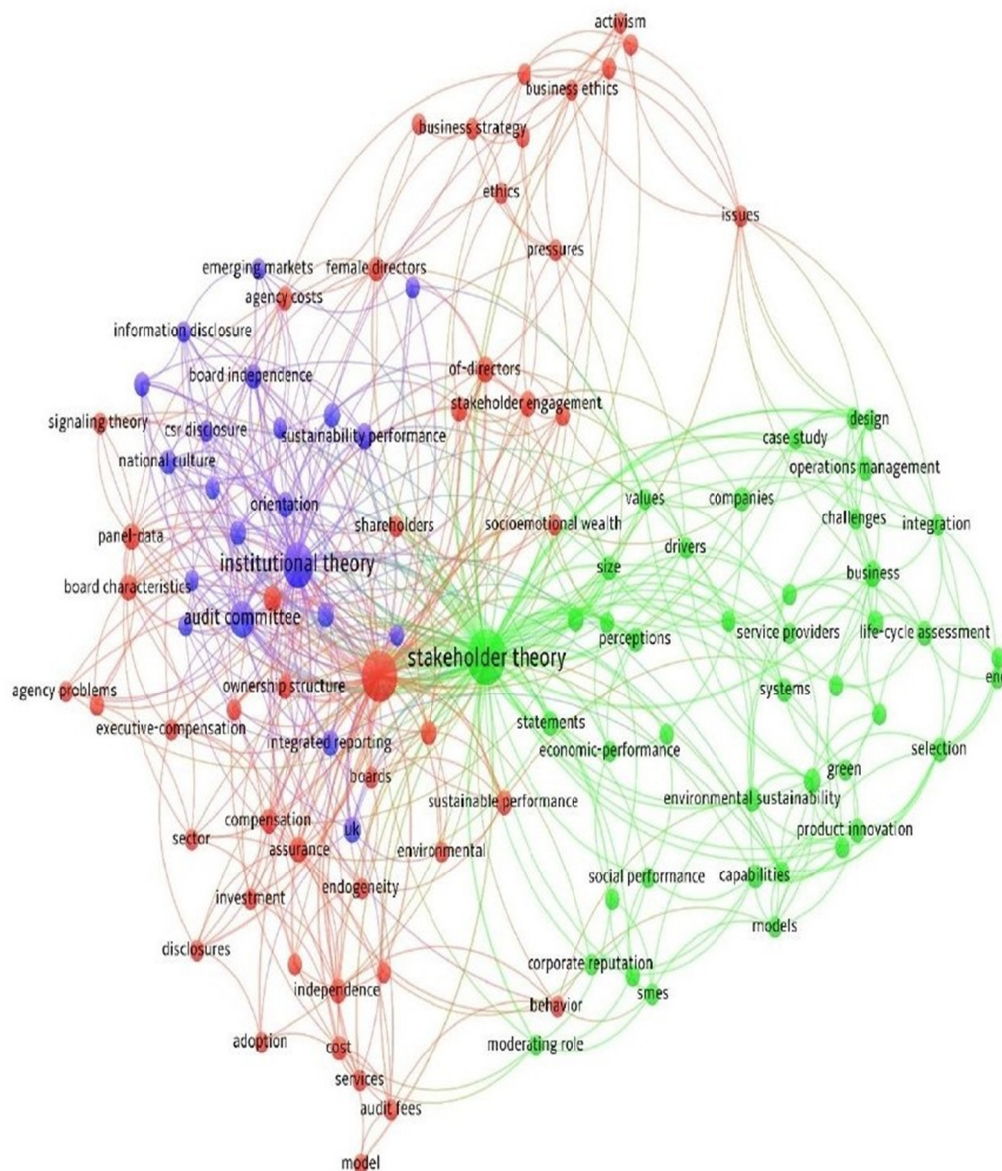


Figure 8. Keyword network clustering results

Cluster 1 (red) identified board-level mechanisms as its prominent node and gathered keywords such as gender parity, independent directors, board size, board authority, etc. This cluster primarily featured the Agency Theory and focused on principal-agent associations at the board level of the firm. The central node of Cluster 2 (green) identified firms' operational effectiveness and gathered keywords such as operational performance, product design solutions, business process improvement, resource efficiency, operational capability, etc. This cluster mainly referred to the Stakeholder Theory and emphasized the diverse interests of stakeholders for economic, social, and environmental reasons to achieve organizational success. Finally, cluster 3 (blue) had assurance as its central node, focusing on external assurance, internal assurance, sustainability assurance services, audit committee, and other relative phrases. This cluster addressed Institutional Theory and emphasized regulatory and normative pressures regarding sustainability issues.

The cluster analysis results exhibited the extent to which various CG mechanisms had mediated sustainability and the financial performance of firms. Furthermore, these three clusters were generally significant in the theoretical development of CG mechanisms and were critical for their policy impact on integrating sustainability into a firm's business strategy.

4. Discussion and Implications for Future Research

Using the cluster analysis, this study elucidates the mediating role of governance on sustainability and the financial performance of firms in three key areas: board-level governance, operational-level governance, and assurance-level governance.

4.1 Cluster 1: Board-Level Governance

The red cluster in Figure 8 shows the relationship between board characteristics and firms' sustainability and financial performance. This cluster operates mostly from an Agency Theory perspective in which the features of the board directly determine a firm's sustainability performance (Haladu & Salim, 2016; Helfaya & Moussa, 2017), management supervision (Peng & Zhang, 2022; Rao & Tilt, 2016) and information asymmetry issue reduction with the aim of reinforcing the CSP-CFP relationship (Yakob & Abu Hasan, 2021).

This cluster examines various board attributes, predominantly board composition, board gender, and board independence in the CSP-CFP relationship. This cluster has four key findings to highlight how different board characteristics affect sustainability and the financial performance of firms. First, board independence effectively promotes a firm's resources for social and environmental sustainability initiatives. This confirms the arguments of Cui and colleagues (2020) on independent directors' sustainability responsibility, as well as those of Alipour and colleagues (2019) regarding a strong association between board independence and the sustainability performance of firms. This result reveals that independent directors are more involved in fulfilling sustainability obligations, which could improve board management control and improve sustainability and the financial performance of firms.

Secondly, the analysis revealed that board size positively reinforces the CSP-CFP relationship. This confirms the perception that larger boards can enhance panel expertise and, as a result, improve sustainability and the financial performance of firms in line with the findings of Muñoz (2020). This result further illustrates that an experienced board could lessen knowledge disproportionateness and managerial opportunism. This could enhance board policymaking on environmental and social sustainability issues.

Thirdly, board gender parity or board masculinity negatively mediates the relationship between sustainability and the financial performance of firms, validating the contentions of the more significant impact of material achievement (Zhu et al., 2022) and lowering managers' apprehension regarding sustainability (Bristy et al., 2021). This result implies that managers' quest for their immediate financial interests is enhanced in the presence of a gender-biased board, which in turn diminishes the constructive influence of board independence on executive control and weakens the CSP-CFP relationships.

Lastly, high uncertainty avoidance of a board negatively mediates the relationship between CSP and CFP. This indicates that high uncertainty avoidance could reduce a board's authority in compliance with more controlled and structured processes. This confirms the assertions of Pearce and Patel (2018). In addition, under the direct influence of management, a board is expected to be deferential, which may reduce a board's attention to sustainability matters by lessening its management supervision. This could further weaken the CSP-CFP relationship.

The findings of this cluster extend both practical and theoretical contributions. Theoretically, the cluster refines the relationship between sustainability and the financial performance of firms and identifies the mediating effect of various board characteristics from an Agency Theory perspective. This cluster also emphasizes the significance of CG, which exhibits board characteristics in corporate sustainability practices. The conflicting opinions of independent board directors and the board's expertise could enhance management supervision by reducing concerns about managers' opportunism and lessening information disproportionateness. This strengthens the CSP-CFP relationship. This cluster also explores the relevance of Agent Theory in governance and sustainability research. It exhaustively supports the agency effect of board characteristics in the pursuit of embedding sustainability in the firm's core business strategy.

Practically, the findings imply potential strategies for firms. First, firms should realize the importance of adopting effective CG mechanisms in strengthening the CSP-CFP relationship. Firms should also deliberate the constructive role of board capability and independent board directors' differing proposals in enhancing this relationship. In this manner, firms can improve their sustainability performance through specific governance standards, such as increasing board independence. The 2015 Volkswagen scandal discussed in the introduction of this paper is a classic case of managers' opportunism. Here, an independent board could have minimized the manager's opportunism issues and ultimately assisted the firm in ethically reporting its emission testing.

4.2 Cluster 2: Operational-Level Governance

The green cluster in Figure 8 centers on operational efficiencies affecting sustainability and the financial performance of firms. The Stakeholder Theory forms the basis of the existing literature on governance at the

operational level. In a stakeholder agency paradigm, managers form an association with shareholders and other stakeholders in performing tasks, including economic, social, and environmental initiatives (Donaldson & Preston, 1995).

This cluster examines the impact of various operational attributes, predominantly product design solutions, business process improvement, and resource efficiency, on the CSP-CFP relationship. This cluster has three key findings. First, firms that focus on their internal changes (i.e., product design solutions) can introduce lean production, reduce emissions, and enhance the capabilities of their workers. This reduces trust asymmetry between management and stakeholders and strengthens the CSP-CFP relationship. This confirms the arguments of Villena et al. (2021) on improving employee-management relationships with lean production and Li and colleagues (2016), who suggest product design solutions as a self-enforcing CG mechanism in addressing environmental and labor issues. This finding is also a critique of Bansal and DesJardine (2014), who suggest that social and environmental performance differ, as the environmental dimension requires technical skills to implement, and the social dimension depends on external stakeholders' interests.

Secondly, this cluster finds that business process improvements strongly influence sustainability and the financial performance of firms, as process improvements are carried out due to various stakeholder governance requirements. Managers align with the business process development, are influenced by environmental and social issues, and adopt new processes from external stakeholders. For example, consumers who prefer green products confirm the arguments of Chu and colleagues (2019), who believe that green customer pressures demand more sustainable observances.

Lastly, this cluster emphasizes that resource efficiency creates a positive impact on sustainability performance, which then leads to higher financial performance. This validates the assertions of Yang & colleagues (2020), who stress material management through the lens of operational effectiveness, and those of Sharma & colleagues (2020), who investigated how resource efficiencies positively impact firms' financial performance.

While most of the papers in this cluster focused on the role of operational efficiencies in generating a valued impact on the sustainability and financial performance of firms, this raises a critical question of accelerating operational processes to strengthen the CSP-CFP relationship. The Stakeholder Theory sometimes questions the roles of managers in reinforcing the CSP-CFP relationship. For example, Schwarzmüller and colleagues (2017) suggest that investors are the main driving force behind stakeholder management. According to Bacha and Ajina, (2020), the role of managers is limited to facilitating sustainability initiatives, and as such, they conduct their activities in a rather opportunistic way. Another limitation observed is that performance indicators usually depend on unique business processes, and these indicators cannot represent the general nature of business processes. For instance, what could have deterred Volkswagen from the unlawful handling of emission testing may not entirely hold for other firms, which use different business processes.

4.3 Cluster 3: Assurance-Level Governance

The last cluster (blue) in Figure 8 focuses on the role of assurance mechanisms in the CSP-CFP relationship. Most papers in this cluster suggest that two types of service providers drive assurance mechanisms: audit committees and assurance experts. This cluster discusses the impact of assurance mechanisms on various performance indicators. Audit committees and assurance experts have different effects on firms' sustainability and financial performance. On the one hand, audit committees are primarily concerned about the cumulative sustainability dimensions of firms, including environmental and social issues, and monitor the sustainability performance of firms predicting long-term business growth. This reinforces the arguments by Rawi and Muchlish (2022) and Buallay and Al-Ajmi (2020), who suggest that audit committees assure firms' social and environmental performance. This cluster further finds that audit committees are generally inclined to publish separate assurance statements consistent with a firm's sustainability performance, validating Maroun (2020), who links the use of assurance mechanisms for integrated reports.

On the other hand, assurance experts are generally focused on the environmental performance of firms. This cluster implies that assurance experts integrate sustainability reports into a firm's financial statements. This is in line with the findings of Sheldon and Jenkins (2020), who believe that the inclination of assurance experts on the environmental performance of firms may be due to the dominance of environmental metrics. In contrast, there are relatively few social metrics developed.

This cluster mainly uses an Institutional Theory perspective to understand the implications of assurance mechanisms on the CSP-CFP relationship. Institutional structures consider sustainability norms and form relationships among stakeholders in a market economy (Nwoba et al., 2021). This cluster suggests that firms operate under the influence of various institutional aspects, corroborating the rationale for acting homogeneously in a market economy (DiMaggio & Powell, 1983). Most papers in this cluster find that government regulations or voluntary practices are formed with the help of institutional frameworks and subsequently reinforce the

CSP-CFP relationship, confirming the arguments of Aureli and colleagues (2020). However, some papers suggest that market pressures influence firms to undertake sustainability initiatives and gain institutional legitimacy (Miller et al., 2017). Nonetheless, the findings from this cluster support the assertion that assurance mechanisms are linked with government regulations or the market economy. As a result, firms may be less motivated to integrate sustainability into their core business strategy where there are weak government regulations or poor market standards.

4.4 An Overall Evaluation

Evaluating the literature using a governance and sustainability lens focusing on CG mediators in the CSP-CFP relationship yields varied results. However, it is reassuring that researchers have started considering a more nuanced CG perspective on the CSP-CFP relationship. This may expand the knowledge base significantly and could eventually show steady patterns in the relationship under review, helping to address the question, “Which and to what extent have various CG mechanisms influenced the CSP-CFP relationship?”

However, the research on CG mediators in the CSP-CFP relationship is fragmented. The number of studies examining CG constructs is strikingly low, considering how many studies focus on the CSP-CFP relationship and the fact that researchers have shown interest in a CG viewpoint on this relationship. A few papers examining a specific relationship (e.g., assurance-level governance) are not a critical limitation as such. However, in view of the three primary CG constructs, the selected studies depend on proxy firms’ performance indicators along with the diverse CG mediators (Table 1), and the inadequate studies available could be viewed as a critical limitation as they obstruct the comparing of findings across studies and therefore hinder the occurrence of steady patterns.

Despite a broad theoretical consensus among researchers about the importance of effective CG mechanisms in analyzing firms’ sustainability and financial performance, practical implications are unclear in various spheres. The available literature which uses a CG lens can be critiqued for three reasons, namely i) identifying a sparsity of mediating factors for the CG-financial performance relationship in the literature and, thus a need to go beyond the traditional mediating factors such as board size and board independence ii) a heavy reliance on Agency and Stakeholder Theory which while relevant limit the room for a holistic and wide-ranging examination of business operations iii) a heavy focus on CG moderators at the expense of mediators, thus limiting the depth of causal explanations available in the literature.

These three findings are discussed in more depth below. Overall, this work provides a robust and much-needed addition to the literature by systematically documenting existing frameworks and indicators and their evolution, thus consolidating the knowledge generated thus far. Furthermore, it identifies critical gaps in the literature, highlighting the need to explore under-researched areas, incorporate diverse theoretical perspectives, and delve deeper into mediating mechanisms in the CSP-CFP relationship. These findings lay the groundwork for future theoretical and practical endeavors that can address these gaps and provide a more comprehensive and nuanced understanding of how corporate governance, sustainability, and financial performance interact in business operations.

4.4.1 Lack of Originality

The scoping review of the relevant literature yielded 91 studies focusing on various CG mediators in the CSP-CFP relationship. At the onset, this could seem like a wide selection of papers. However, it becomes evident that despite the various CG mechanisms available, only nine different mediators were studied. Given that this paper identifies only nine distinct mediators, the case seems even worse for firms’ performance indicators than for CG mediators. Besides, it is surprising that many CG mediators investigated were of the ‘business-as-usual’ variety, such as board independence and size. However, to ensure a deeper understanding of the CSP-CFP relationship, there is the need to surpass these ‘business-as-usual’ mechanisms and examine other CG constructs that could mediate the CSP-CFP relationship. For example, one construct that is severely under-researched is IT governance.

Even with the continued focus on effective IT governance, there has not been enough research on how boards oversee IT to strengthen the CSP-CFP relationship (Sueyoshi & Goto, 2014). So far, little interest has been given to specific business areas mediated through CG mechanisms. This is in line with the findings of this paper, which asserts that the governance and sustainability field mainly draws on two theoretical perspectives, i.e., Agency Theory and Stakeholder Theory—in reflecting the sustainability and financial performance of firms.

However, originality is also lacking in the operationalization of CG constructs. Most papers reviewed concern the board-level governance constructs, with only a few considering operational-level or assurance-level governance constructs. As pointed out at the beginning of this paper, if firms endeavor to integrate sustainability into their corporate activities, there is a need to move towards CS as one integrative term. Likewise, firms must ensure that different CG constructs are mutually supportive in strengthening the CSP-CFP relationship.

Therefore, they need to apply similar underlying theories and key performance indicators to transform their relationships with the environment and society.

4.4.2 Problems of Theory Building and Theory Confirmation in CG

Agency Theory and Stakeholder Theory are the main theoretical bases of the literature reviewed in this paper (and possibly the broader knowledge base on the CSP-CFP relationship). As depicted in Table 1, more than two-thirds of the documents reviewed construct their arguments on Agency Theory and Stakeholder Theory. Admittedly, these theories are the obvious choices since the potential disputes between shareholders and managers, the varying interests of stakeholders, and environmental and social changes are deemed as the critical aspects of CG. However, multiple theoretical perspectives can enable the holistic examination of firms and create a meaningful critique of business operations and management practice (Okhuysen & Bonardi, 2011). Thus, the continued reliance on the Agency Theory and Stakeholder Theory, i.e., their apparent alignment to the research question, hinders the advancement of the CG field in strengthening the CSP-CFP relationship. Both theories are extensively used in the literature. However, as shown in Table 1, some studies do not clearly discuss these two theories, but rather form their claims based directly on these theories without considering their appropriateness in the specific use cases. Using these theories in exploring the extent to which CG mechanisms mediate the CSP-CFP relationship is likely to generate the same outcome. As a result, this could hamper further development in this research field.

4.4.3 Focus on Moderators Rather than Mediators Affecting the CSP-CFP Relationship

Although many empirical findings on the CSP-CFP relationship are available, most of these studies have concentrated on the moderators, i.e., “what alleviates or reinforces the CSP-CFP relationship,” rather than looking at mediators, i.e., “by what means does CSP affect CFP.” This is evident from the large number of studies initially identified through the database search (i.e., 990 papers). Most of the identified studies focused on moderating variables affecting the dependent-independent variables relationship, e.g., firm characteristics, industry characteristics, business environment, etc. (Grewatsch & Kleindienst, 2017). Very few studies have attempted to examine the causal impact of an independent variable on a dependent variable mediated by a third variable. In other words, the independent variable affects the dependent variable because the independent variable affects the mediator, and the mediator, in turn, affects the dependent variable. Although this paper subsequently distinguishes the potential CG mediators (e.g., board size, assurance experts, etc.) forming an indirect relationship between the CSP and CFP, there remains a lack of focus on measurement and operationalization issues pertaining to CG mediators. Hence, there is a need to generate more in-depth empirical evaluations, which explicitly consider the CG mediators that may influence the CSP-CFP relationship.

4.5 Suggestions for Future Research

The two main questions this paper sought to address are (i) Which CG mechanism mediates the relationship between sustainability and financial performance of firms. (ii) How do these CG mechanisms affect firms' sustainability and financial performance? In the context of these research questions and the critical emphasis on CG mediators, examining “by what means does CSP affect CFP” can be considered one of the main issues of strategic management literature. This investigation was necessary given that despite the growing case for sustainability-oriented CG and renowned examples of the failures created due to inadequate CG, it has remained unclear exactly how sustainability-oriented CG impacts financial performance.

The use of a scoping review enabled an exhaustive understanding of the evidence thus far. Figures 2–7 map the evolution of global literature on this theme, informing future research with a broad overview of relevant theories and indicators and their relative use over time. Pertinently, it identified Stakeholder Theory and Agency Theory as the key theoretical lenses underpinning the literature in question, suggesting that the addition of other theories may offer great potential for advancing this research area and incorporating more interdisciplinary perspectives. The scoping review also identified the need for future research to demonstrate how mediating factors (i.e., CG mediators) may influence the CSP-CFP relationship, including the consideration of broader and more interdisciplinary mediators. Based on these findings, the need for more original and interdisciplinary theory building is clear.

The use of a cluster analysis technique to complement the scoping review was valuable in uncovering relationships, similarities and differences among the factors that influence the relationship between CG and corporate financial performance. Indeed, this approach was successful in identifying influential board-level mechanisms, operational factors, as well as assurance and auditing factors, which could influence CG. It was also helpful in identifying mediating factors between sustainability-related CG and financial performance (see Figure 8). This complements the more deductive evidence in the literature and adds more precision in future theory development. In addition to examining a wider range of mediators in the CG-financial performance relationship, the identified mediators can inform applied experiments, such as natural experiments, to examine

how varying these mediators impacts the CG-financial performance relationship and thus proffer concrete suggestions for firms.

In general, this study has identified the necessity for an interdisciplinary approach to the CG and sustainability nexus, which can improve the precision and utility of knowledge generated.

5. Conclusion

This paper conducts a scoping review to identify key focus areas that may improve the knowledge base examining CSP-CFP relationships mediated by various CG mechanisms. This paper has contributed to the existing knowledge by exploring the relationship between CSP and CFP through three distinct lenses: the board level, operational level, and assurance level of governance.

Some key areas need to be more thoroughly considered in existing literature. For example, a deeper cluster analysis linked to assurance mechanisms is still understudied in the current literature. Future papers will need to focus on the impact on the sustainability performance of firms by assurance experts or audit committees. Recent articles addressing sustainability and governance appear to be more attentive to CG mechanisms, such as board characteristics, as shown in Figure 8. However, other control mechanisms within the governance framework are either understudied or under-identified. This paper is a starting point for further review to understand the governance and sustainability domains and explore how the interaction between the two could affect the financial performance of firms.

This review identifies a wide array of performance indicators to construct the CSP-CFP relationship. However, these performance indicators' definitions appear inconsistent across different papers, which may hinder the accurate measurement of firms' sustainability and financial performance. Furthermore, this review uses only three databases, thus possibly excluding essential papers. It would be worthwhile for future papers to include other databases and possibly literature in other languages in analyzing the CSP-CFP relationship to ensure a broader range of contexts.

The employment of some non-bibliometric approaches to examine the CSP-CFP relationship is also recommended. The existing literature investigating the nexus between sustainability and the financial performance of firms has generally overlooked the possible issue of endogeneity (Soytas et al., 2019). The excluded variables, measurement error, and reverse causality that set off endogeneity may be the likely causes for the indecisive relationship between CSP and CFP. Future research could focus on the correlation between CSP and CFP while controlling the impact of various CG mechanisms and using endogenous variables.

In summary, this scoping review provides a starting point in investigating the role of CG mediators in the CSP-CFP relationship. To advance the field, a strategic research approach that explores a wider range of theories and analytical models is recommended. By evaluating the extent to which CG mediators influence the CSP-CFP relationship, a more comprehensive understanding of the complex dynamics at play will be gained. This will ensure significant strides in understanding the potential of effective governance mechanisms to develop sustainable and financially successful organizations, as well as inform decision-making, resource allocation, and efforts to advance sustainability globally.

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