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Challenges and Trends in Sustainable Corporate Finance: A Bibliometric Systematic Review

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Abstract: Sustainable corporate finance is an attractive field of study in sustainability literature; however, the literature lacks systematic bibliometric analysis that provides a comprehensive review to clarify state-of-the-art sustainable corporate finance and that discusses new opportunities and potential instructions for further studies. To address this gap, this study adopts a literature review, bibliometric analysis, network analysis and co-wording technique to systematically investigate the Scopus database. In total, 30 keywords listed at least three times are used and are divided into six clusters considering six fields of research, namely, corporate finance in corporate sustainability, sustainable competitive advantages, sustainable stakeholder engagement, circular economy, sustainable corporate finance innovation and risk management and sustainable supply chain ethics. This study contributes to examining the sustainable corporate finance bibliometric status to provide directions for future studies and practical accomplishment. The sustainable corporate finance knowledge gaps are (1) corporate finance in sustainability; (2) sustainable competitive advantages; (3) sustainable stakeholder engagement; (4) circular economy; (5) sustainable corporate finance innovation and risk management; and (6) sustainable supply chain ethics. The knowledge gaps and future directions are also discussed.

Keywords: sustainable corporate finance; bibliometric analysis; network analysis; co-wording analysis; circular economy; triple bottom line

1. Introduction

Sustainable corporate finance (SCF) is a multi-indicator approach to finance a corporation in a way such that all social, environmental and financial factors (triple bottom line, TBL) are interconnected and integrated into an explicit system developed between current and future generations (Soppe 2009). Johnsen (2003) and Peylo (2012) suggested that SCF is precisely interrelated to social responsibility investments through the sustainable and conventional optimization of synthesis financing aimed at achieving higher environmental and social performance while preserving and bringing back additional

income. For instance, Huerga and Rodríguez-Monroy (2019) claimed that an SCF system helps economies develop balance and not be prejudiced by surplus debt use. Sertsios (2020) proposed organizational structures directly linked to initial SCF preferences because firms have internal financing advantages in markets integrated with sustainability drivers that help create sustainable long-term cash flows. SCF is important for firms to balance the TBL towards sustainability.

Prior studies explored SCF. For example, Esty and Winston (2009) built a sustainable business model based on the four key value drivers of intangibles, risks, costs, and revenues to measure benefits and returns. Galaz et al. (2018) explored the relationship between financial aspects and nonlinear corporate changes to develop a methodology that allowed financing activities to be linked to economic performance to sustain the Earth's climate system. Hollindale et al. (2019) highlighted the magnitude and informed that both financial and sustainability performance integration can be promoted as a solution to financial reporting of the shortcomings of greenhouse gas emissions' quality. Aranda-Usón et al. (2019) presented the influences of financial resources in businesses on achieving a more advanced circular economy (CE). Thapa et al. (2020) presented the differential effects between standalone and business group firms on the credit restructuring of intense creditor liberties that increase credit supply and extend financially constrained firms to achieve higher benefits. Siegrist et al. (2020) integrated a conceptual SCF framework with risk management, intangible assets and cost reduction by proficient resource utilization and revenue improvement to highlight how firms could utilize environmental sustainability in their long-term financial decision-making frameworks. Banerji and Fang (2020) contributed to the literature on financing and industrial corporations by featuring a capital utilizing modelled as an all-pay opposition in the digital environment. Sertsios (2020) combined corporate finance, industrial organizations and corporation economics to emphasize sustainable developments in market competition, customer-supplier integrations, ownership structures and organizational forms and initial financial policies' interactions. Although SCF has been examined in the literature, systematic methods that form firms' corporate finance practices are lacking (Chan et al. 2019).

In addition, Sharma and Starik (2002) proposed sustainability challenges to social welfare improvements and environmental impact reductions since firms incorporating these activities into businesses hamper economic development. Chomsky (2007) indicated that unsustainable practices can lead to externalized costs creates by society, whereas additional returns are privatized. Barton and Wiseman (2015) declared that incentivizing employees and managers would challenge shareholders' financial value maximization and lead to difficulties in establishing short-term business sustainability. Firms create involuntary systems that make the sustainable business model more complex with respect to implementing reimbursements and dealing with investor pressure and decision-making factors related to fixing financial reporting systems (Dumay et al. 2016). Additionally, comparability and consistency between SCF relevance and integrated decision usefulness are lacking (Slack and Tsalavoutas 2018; Siegrist et al. 2020). Gibson (2010) stated that traditional sustainability frameworks fail to offer expected outcomes and delivered more integrative tactics instead of trading-off and balancing stakeholders' needs. Huerga and Rodríguez-Monroy (2019) claimed that one cause of a financial crisis is the unnecessary sustainable control taken by capital instruments, such as the share of debt and equity that allows firms to finance their balance sheets but increase their overall costs of capital.

The literature has confirmed that firms attempt to interpret financing networks as controlling incomes (El-Gamal 2009; Lizińska and Czapiewski 2018). Galaz et al. (2015) and Galaz et al. (2018) indicated that major funders increase the pressure on corporations through sustainable investment policies to improve TBL performance. Investments in the environment and sustainability represent significant corporate off-balance-sheet expenditures and create significant intangible asset values that comprise an increasing share of a firm's market capitalization. Zaman et al. (2018) combined bonus tax shelters and firms' benefits to create reasonable and sustainable financing solutions to provide a firm with sustainable wealth generation. Concerns over firms' sustainable performance are crucial

investment aspects to achieving better financing support, specifically, for those undergoing serious financing constraints (Li et al. 2020). Fatemi and Fooladi (2013) stated that a constant financial regulatory structure needs to be established that generates efficient resolutions to accomplishing sustainability. Huerga and Rodríguez-Monroy (2019) measured corporate debt levels under mandatory fiscal ratios reflecting payments of interest and debt divided by income repayments. However, comprehensive SCF has not been achieved because of the level of specificity and range in differentiating resource optimization capabilities, and the existing results only mostly focus on economic and environmental factors (Portillo-Tarragona et al. 2018).

An integrated SCF approach as an important collective accumulation is needed; however, this is difficult to obtain in practice because of the influence of uncertainty on mature financing structures and decisions and because specific corporate financing factors largely remain unexplored. The concept is attracting attention in sustainability literature but is still poorly established (Gómez-Bezares et al. 2016). Accordingly, the need exists to corroborate SCF as an integral part of a firm's sustainability to capture long-term value (Aranda-Usón et al. 2019; Ang 2019). Key aspects of SCF need to be established and comprehensively understood (Khoo and Cheung 2020). Thus, an integrated assessment of the literature review is crucial to identifying the knowledge gap in the extant SCF literature. This study proposes a systematic review to clarify the state-of-the-art SCF and provide new opportunities and potential instructions to foster further studies. Hence, this study's objectives are as follows.

- To investigate the state-of-the-art SCF in the literature; and
- To identify future debates and study trends to enhance future studies.

A literature review aims to determine, clarify, structure and evaluate the related existing literature in an unprejudiced, reproducible and systematic way by highlighting relevant intellectual boundaries (Tranfield et al. 2003). A systematic review manages a significant diversity in the literature to provide an exhaustive and in-depth examination and well-defined contextual correlations (Raghuram et al. 2010). This study uses a bibliometric literature review and network analysis to systematically approach the literature to enhance future studies. The bibliometric analysis is employed because of the following reasons. First, the method is easier and more reliable than other text analysis techniques when managing a large amount of data. Second, bibliometric analysis deeply analyzes relationships among articles, keywords and citations to deliver comprehensive information in the field. Finally, bibliometric analysis has a strong visualization capability to identify interests for future studies in the field (Bhatt et al. 2020; Feng et al. 2017; Geng et al. 2017).

This study contributes to (1) providing valuable directions by examining the bibliometric status and identifying the SCF knowledge structure from the existing literature and (2) identifying the critical issues needed to advance future studies and support practical accomplishments. Since the most recent work has pointed out the complexity and uncertainty of SCF, such as vulnerable corporate investments, risk premiums and cash holdings, endorsing the concept for clearer structures and instructions is an urgent issue (Çolak et al. 2017; Brogaard and Detzel 2015; Azzimonti 2018; Jens 2017; Cheng et al. 2018; Khoo and Cheung 2020).

The remainder of this study is organized into 4 sections. The second section explains in detail the methodologies, data collection process and proposed analysis steps. The third section presents the bibliometric results. Then, the literature review discussion and debate on future study trends and challenges are provided in the fourth section. The last section provides the conclusions, the study's limitations and suggestions for future studies.

2. Method

In this section, the steps to the analysis are proposed, and its data collection, bibliometric analysis, network analysis and co-wording analysis are discussed in detail.

2.1. Proposed Analysis Steps

This study used a bibliometric and network analysis on a coordinated co-word analysis to deconstruct and understand the definitional SCF issues. VOSviewer software was employed to compose vivid diagrams and data compatibility. The steps to the analysis steps were proposed as follows.

1. Identifying search terms to extract SCF publications from the Scopus database.
2. Conducting a bibliographic analysis to classify the SCF literature structure using VOSviewer software.
3. Approaching the network analysis for data clarification to extract available descriptive information, such as publication time, journal, countries/territories and keywords.
4. Analyzing the keywords, co-occurrence frequencies and keywords clustering using co-word analysis to specify future study implications.

The data analysis systematic diagram was obtained as in Figure 1.

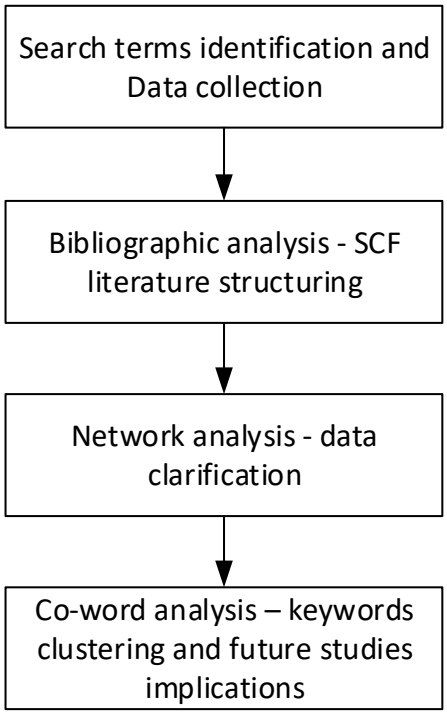

Figure 1. Proposed analysis steps.

2.2. Data Collection

The Scopus database covers a larger publication range and is more suitable to bibliometric analysis than other data sources, such as Web of Science (Ansari and Kant 2017; Jin et al. 2018). The Scopus database is identified as providing the most related and influential studies to inspect topics suitable for mapping a field structure to provide future studies with insights into emerging topics, such as corporate social responsibility or supply chain management (Feng et al. 2017; Ertz and Leblanc-Proulx 2018). In the financing context, Bals (2019) conducted a literature review from the Scopus database to develop a supply chain finance ecosystem. Jia et al. (2020) reviewed 47 sustainable supply chain finance publications in Scopus. Baker et al. (2020) used Scopus as a data source to illustrate bibliographic couplings in corporate finance. Hence, the data from the Scopus database were critiqued to assess the scholarship of the SCF literature. The following search terms were used: "("sustainable corporate finance") or ("corporate financ*" and "sustain*")". The search boundary was limited to before 14 August 2020, and English articles and reviews are filtered. The results are streamed by titles, abstracts and keywords (Fahimnia et al. 2015).

2.3. Bibliometric Analysis

Bibliometric analysis is a quantitative method to organize an intensely collective body of literature and offer scientific mapping of the studies' ideas and patterns (Zupic and Čater 2015). The method statistically evaluates study outputs, productivities, magnitudes and the influence of authors, journals, institutes and so on within a specific field (Chiu and Ho 2007). In addition, a bibliometric analysis examines strengths and weaknesses and identifies research gaps in the literature that are limited by publication number, which can be a trend for future studies (Feng et al. 2017). Bibliometric analysis visualizations are a scientific tool for portraying a development map and for indicating guidelines for future studies by mapping keywords for the network analysis that are difficult to convey from the extensive information on titles, abstracts and even full texts through an inclusive examination.

A bibliometric analysis is a prevalent method that allows researchers to inspect previous scientific works and future developments. The method is broadly used in various fields, such as natural resource accounting, pricing strategies, data mining and emery research (Chen et al. 2017; Gao et al. 2016; Yeo et al. 2015; Zhong et al. 2016). The results can help researchers better recognize future study fields and potential scholarly associates and classify suitable institutes for engagement in academic careers or venture research (Geng et al. 2017). The method benefitted from various sustainable development disciplines, such as green and sustainable innovation, CE, sustainable consumption, sustainable manufacturing, lean logistics management and financial sustainability (Bhatt et al. 2020; Caviggioli and Ughetto 2019; Liu et al. 2017; Wichaisri and Sopadang 2018; Xu et al. 2018).

Bibliometric analysis examines prescribed knowledge properties using mathematical and statistical approaches (Mora et al. 2017). Many studies confirmed that VOSviewer software is an appropriate tool for handling large amounts of data and provides various advanced options to obtain better bibliometric visualization results (Van Eck and Waltman 2014; Fahimnia et al. 2015). Bibliometric analyses use VOSviewer to classify documents with similar denotations into one cluster to describe their interrelationships (Van Eck and Waltman 2019). The software develops quantitative representations of the knowledge structure and logical progress to properly classify the existing literature (Feng et al. 2017; Wang et al. 2019). This study used VOSviewer version 1.6.11 to visualize bibliometric networks and explore the SCF literature structure, hence providing knowledge gaps as potential study trends and practices.

2.4. Network Analysis

Network analysis through a bibliometric instrument is effective at identifying the emerging and conventional topical field (Fahimnia et al. 2015). Network analysis helps classify the studies' clusters to show information diversity in the field by identifying differences among keywords, countries/territories and institutes. The method describes in an unbiased manner the conceptual possibility and concentrates the literature into clusters relative to traditional qualitative methods that use some identified biased factors (Feng et al. 2017). This study illustrated the bibliometric and network analysis approaches to objectively organize persuasive study topics and, in particular, to structure SCF study trends. The bibliometric graphical visualizations generated from the keyword network analysis were used to convey active information from the input data.

2.5. Co-Word Analysis

Co-word analysis is a content analysis technique that uses document keywords to convey a study field's scientific structure (Callon et al. 1983). Based on the words' frequencies of appearance in the document, word perceptions are extracted that show co-occurrence relationships built in the structure. The co-word analysis unit is a keyword, and the keyword frequencies in the dataset are used to structure the network interrelationships among different keywords (Zupic and Čater 2015). Some visualization instruments are adopted to conceptualize the complex relationships among those words into a clear and direct network understanding (Feng et al. 2017). A node in the network

represents a keyword, and the size of each node represents the frequency of the co-occurrence of the keywords (Hernández-Linares and López-Fernández 2018). In a graph or network, the edge between two nodes, if they exist, represents the link between two keywords. A cluster is formed among the keywords to describe their closed interrelationships in similar documents. More influential cluster sets are determined to be more related to studies and to supplementary developing study fields depicted as potential study topics (Ertz and Leblanc-Proulx 2018).

3. Results

The data collection, bibliometric and network analysis and co-word analysis results are reported in this section.

3.1. Bibliometric and Network Analysis Results

The data collection result shows that 227 articles and reviews were generated with a pool of 705 author keywords. Consistent with the default constraints in VOSviewer, 30 keywords were listed at least three times, and corporate finance, sustainability, sustainable development, corporate social performance, corporate sustainability and corporate governance had the highest frequent occurrences. Author keyword distribution is illustrated through bibliographic coupling. The visualization reveals the corporate finance, sustainable development and sustainability node represented as the central keywords, which then have interrelationships with other keywords. The exact SCF term has not yet been indicated or become popular in the literature. Indeed, SCF is only a small node in the network, confirming that the concept started to be a concern in 2016 (Gómez-Bezares et al. 2016)—presenting growth in attracting literature and a promising potential topic for future studies (see Figure 2). The yellow nodes, such as for environmental management accounting, eco-innovation, CE and stakeholder engagement, represent the latest occurring keywords since 2018 as the newest, most recently considered topics.

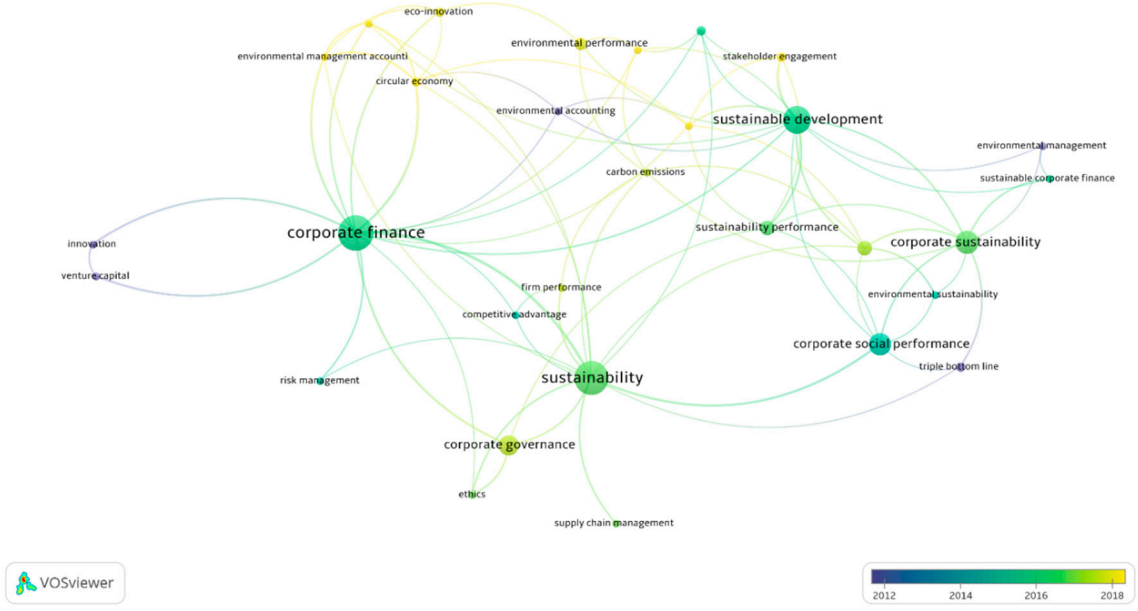

Figure 2. Co-occurrence of author keywords by publication year.

In total, 48 countries/territories were recorded as publication geographic distributions, with the minimum number of documents for a country equal to 1. This study acquired bibliographic coupling by year, with the most productive countries/territories being the United States and China, followed by Italia, Spain and Australia. The top cited countries with the highest citation weights and having the most influential country impacts on the field were the United States, Australia, Germany and Hong Kong (see Table 1). The latest countries/territories with publications listed in the

field—since late 2018—were Turkey, Vietnam, South Korea and Brazil (see Figure 3). These results show that SCF study trends are moving towards developing countries (Lizińska and Czapiewski 2018; Aranda-Usón et al. 2019) and, in particular, emerging markets with incomplete and changing financing systems that require sustainable improvements; thus, more empirical investigations in various conditions are needed.

Table 1. Bibliographic coupling of countries/territories.

ID	Countries/Territories	Documents	Citations	Average Published Year
1	Australia	18	525	2014.667
2	Austria	1	1	2019
3	Brazil	2	7	2018.5
4	Canada	9	289	2013.333
5	China	20	157	2016.75
6	Colombia	1	1	2013
7	Croatia	1	15	2012
8	Czech Republic	1	11	2017
9	Denmark	3	134	2012.333
10	Finland	1	27	2014
11	France	10	147	2015.8
12	Germany	10	301	2015
13	Greece	5	29	2014.4
14	Hong Kong	4	313	2013.75
15	Hungary	1	0	2009
16	India	11	61	2015.455
17	Indonesia	8	55	2017.875
18	Iran	2	19	2017.5
19	Iraq	1	0	2020
20	Italy	18	175	2018.167
21	Japan	1	27	2019
22	Lithuania	1	1	2019
23	Malaysia	5	231	2016
24	Morocco	1	10	2018
25	Netherlands	5	67	2016.8
26	New Zealand	3	178	2008.333
27	Norway	4	67	2014
28	Pakistan	6	21	2017.167
29	Philippines	3	2	2017.667
30	Poland	6	55	2016.667
31	Romania	3	24	2016.333
32	Russian Federation	7	12	2017.429
33	Saudi Arabia	2	5	2017.5
34	Singapore	4	82	2017.25
35	Slovakia	1	11	2017
36	South Africa	8	7	2017.5
37	South Korea	7	146	2018.143
38	Spain	19	191	2017.316
39	Sweden	1	21	2018
40	Switzerland	3	86	2011.667
41	Taiwan	7	55	2018
42	Thailand	3	29	2017.667
43	Turkey	4	9	2019.75
44	United Arab Emirates	1	41	2018
45	United Kingdom	10	195	2016.1
46	United States	38	1551	2012.526
47	Viet Nam	2	6	2019.5
48	Zimbabwe	1	1	2013

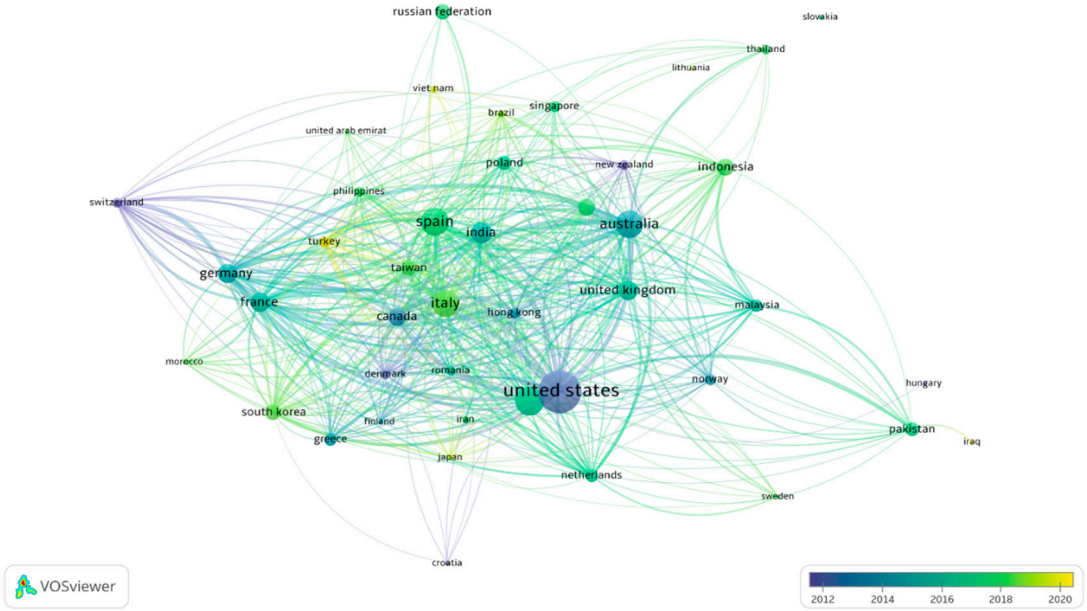

Figure 3. Bibliographic coupling of countries/territories by publication year.

3.2. Co-Word Analysis

Co-word analysis, which is a content analysis technique, reveals the co-occurrence of keywords in a dataset and effectively maps the strengths and traces the relationship structure in a conceptual network. In total, 30 author keywords were extracted from the databases and were indicated in six clusters considered to be the six study groups (see Figure 4). Detailed labelling is conducted in this study (see Table 2).

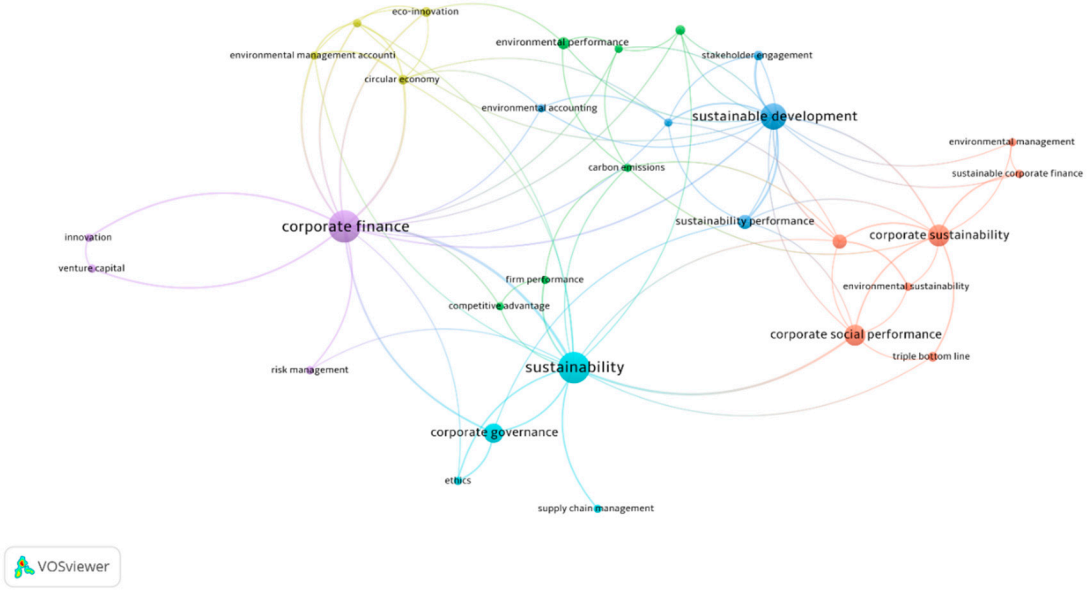

Figure 4. Co-occurrence of author keywords by clusters.

Table 2. Co-occurrence of author keywords.

ID	Keywords	Cluster	Occurrences	Average Published Year	Average Citations
1	Corporate environmental performance	Corporate finance in corporate sustainability	8	2017.125	40.625
2	Corporate social performance		16	2015.0625	30.8125
3	Corporate sustainability		17	2016.4706	20.2353
4	Environmental management		3	2011.6667	36.6667
5	Environmental sustainability		3	2015	113.3333
6	Sustainable corporate finance		3	2015.6667	11.3333
7	Triple bottom line		4	2011.5	37
8	Carbon emissions	Sustainable competitive advantages	3	2017.3333	23.6667
9	Competitive advantage		3	2015	19
10	Environmental performance		6	2017.6667	3.8333
11	Firm performance		3	2017.3333	36
12	Return on equity		3	2018.3333	1
13	Socially responsible investment		4	2015.75	18.5
14	Environmental accounting	Sustainable stakeholder engagement	3	2010	3
15	Environmental policy		3	2019	9.3333
16	Stakeholder engagement		4	2018	20.25
17	Sustainability performance		8	2016.375	10.5
18	Sustainable development		24	2015.8333	25
19	Circular economy	Circular economy	4	2018.75	7.75
20	Eco-innovation		4	2017.75	10
21	Environmental management accounting		3	2019	9.6667
22	Resource-based view		3	2019	9
23	Corporate finance	Sustainable corporate finance (SCF) innovation and risk management	35	2015.9429	8.2571
24	Innovation		3	2011.3333	2.6667
25	Risk management		3	2015	5.6667
26	Venture capital		3	2008.3333	4.3333
27	Corporate governance	Sustainable supply chain ethics	14	2017.2857	4.7143
28	Ethics		3	2016.6667	60
29	Supply chain management		3	2016.6667	60.3333
30	Sustainability		33	2016.4545	31.2727

Cluster 1 performs corporate finance-related theoretical developments in corporate sustainability. The cluster explores and conceptualizes the foundation of the SCF field and covers the primary works of corporate environmental performance, corporate social performance, corporate sustainability, environmental management, environmental sustainability, SCF and TBL. Cluster 2 is largely a collection of studies on sustainable competitive advantages and investment practices. The cluster is composed of competitive advantage, firm performance, environmental performance and carbon emissions and socially responsible investments and returns on equity. Cluster 3 entails works on sustainable stakeholder engagement comprising environmental accounting, environmental policy, stakeholder engagement, sustainable performance and sustainable development. The cluster mainly focuses on stakeholder behaviors and leadership regarding corporate decision making and the SCF managerial approach. Cluster 4 focuses on the SCF as related to the CE concept, including CE, eco-innovation, environmental management accounting and the resource-based view. The cluster mostly concentrates on exchange resource management practices in circulation systems involving financial aspects and cash flow management. Cluster 5 emphasizes SCF innovation and risk management involving corporate finance innovation, risk management and venture capital. The cluster identifies the need for SCF innovation, conceptualizes the foundation for the SCF transition from the traditional system and

empirically builds and tests risk management in the market and changing processes. Cluster 6 comprises of SCF studies related to sustainable supply chain ethics, which concerns corporate governance, ethics, supply chain management and sustainability. This cluster consists of studies on ethical issues in supply chain management and corporate financing aims related to sustainable development.

The result shows that clusters 1, 5 and 6 represent older publications, are particularly influential on the studies' concepts and have the most references in the core SCF set because of their higher occurrence weights and average citation index (see Table 2). The newer clusters cover broader topics supporting empirical sustainable development, such as environmental accounting, stakeholder and public relations, or resource management and CE concepts. These topics reveal that current studies are considered influential works on business analytics approaches, necessitating a more practical alignment and greater precision regarding problem-solving angles.

4. Discussion and Implications

In this section, the results of the analysis show that six study fields were discussed. The six study fields include corporate finance in corporate sustainability, sustainable competitive advantages, sustainable stakeholder engagement, CE, SCF innovation and risk management and sustainable supply chain ethics. The knowledge gaps and future study directions are also discussed.

4.1. Corporate Finance in Sustainability

The increase in sustainability orientation has caused both academicians and practitioners to focus on corporate finance in corporate sustainability (Siegrist et al. 2020). Corporate sustainability is presented as meeting the requirements of a firm's direct and indirect stakeholders without damaging the needs of future stakeholders (Dyllick and Hockerts 2002). This expresses the transformation process of firms' business models to balance apprehensions over TBL when extending long-run operations (Schaltegger et al. 2012). The concept incorporates sustainable development and corporate social and environmental performance to generate long-term wealth by adopting sustainable business operations and strategies (Wilson 2003; Gómez-Bezares et al. 2016).

In SCF, corporate sustainability has the potential to carry a wide range of competitive advantage resources and influence value creation in both the short and longer terms. Firms that have consistent environmental, social and financial performance are argued to have the ability to obtain cost reductions, thus decreasing litigation or regulatory risks and achieving higher operational efficiency and more stable financial community and stakeholder relations. It is also easier for firms to access financial capital for innovation processes; increase business and financial planning effectiveness; earn higher profits by conquering cognizant consumers and augmenting production efficiency by attracting and maintaining talented employees (Brammer and Millington 2008; Etzion 2007). Additionally, investment decisions based on corporate sustainability can offer extra benefits to investors who base their choices partially on monetary returns (Gómez-Bezares et al. 2016). Firms that implement sustainability into their business strategies and decision-making processes can improve their long-term efficiency and increase shareholder assets and corporate value (Portillo-Tarragona et al. 2018).

In the literature, corporate finance in corporate sustainability is still unclear, and unsustainability is harmful to a firm's competitiveness if it fails to deliver the expected outcomes and integrative trade-off approaches for balancing stakeholders' needs (Gibson 2010; Whelan and Fink 2016). Adoption of corporate sustainability can have unpredictable effects on stock market performance, and the protective influences of assets become more essential because of financial market uncertainty, thus influencing corporate finance sustainability. Disadvantages increase as financial risk increases since ownership and management separation is broadly recognized, and shareholders are no longer specialists at firms (Soppe 2004). Any contributor can freely join corporate governance structures because of legal limitations (Soppe 2009).

Investing in sustainable corporate performance might improve corporate finance and might result in effectiveness (Gómez-Bezares et al. 2016). It is vital to form an overall administrative policy

to clarify the foundation of a firm's finance decisions and activities or funding accomplishments, to imply control rights structures and to establish monitoring guidelines. Another important area is sustainability connections because the relationship between social and environmental performance and financial performance still lacks discussion (Lassala et al. 2017; Oh et al. 2017; Marti et al. 2015; Hong and San 2016; Maciková et al. 2018; Wagner 2010). Determining the use of sustainable corporate criteria that generate sustainable returns in a financial crisis, such as market risk controls, industry affiliations, book-to-market value and market capitalization, is missing from the literature (Cheung 2011; Ziegler 2012). Investigating the corporate sustainability impacts on stock market returns, as well as the sustainability index's inclusion and exclusion consequences on corporate value, is proposed (Lizińska and Czapiewski 2018; Moneva and Ortas 2008).

4.2. Sustainable Competitive Advantages

Competitive advantages depend on a firm's capabilities in building, reconfiguring and integrating proficiencies to better adapt to the changing business environment (Eisenhardt and Martin 2000; Teece et al. 1997; Zollo and Winter 2002). This dependence arises from possessing resources and how the resources are used (Portillo-Tarragona et al. 2018). Thus, SCF has the potential to deliver sources of competitive advantages that affect value creation in the short- and long-term by creating and maintaining networks, alliances and collaborations to expand and recollect sustainable competitive advantages (Pagani and Pardo 2017). Competitive advantages in SCF must be consistent with a firm's strategy, be financially sustainable and influence stakeholders' decisions and targets (Carroll and Shabana 2010). For instance, firms are more interested in intensely green governance information mining and creating a socially responsible image for a high shareholding percentage because investors are displaying stronger information mining ability (Cheng et al. 2014; Li et al. 2015). Laws have been developed to provide encouragement to firms involved in competitive practices with co-conspirators and have intensified competition (Dasgupta and Žaldokas 2019). The competitive shock on investment approaches is expected to ease by taking advantage of trademark reinforcement in the product market (Heath and Mace 2020).

Nevertheless, the literature is at the beginning of distinguishing between the resources and capabilities of firms' competitive advantages (Božič and Cvelbar 2016). Competitive threat measures are developed to change responses related to firms' financial statements that indicate serious product-market threats through more conventional cash and expenditure procedures (Hoberg et al. 2014). Higher debt is argued to improve the competitive performance of firms with low leverage but weakens it in firms with high debt (Campello 2006). In practice, firms' strategic responses are only exhibited in marketplaces in which competitive activities are substitutes because deterrence is costly such that investments are impossible when avoiding market opponents, and obligatory firms react to potential compliant competitors (Cookson 2017). Prior studies on SCF have not yet explicitly considered the interactions between firms' financing and investment decisions because these issues are interrelated to firms' competitive environments and organizational structures (Arseculeratne and Yazdanifard 2013; Gómez-Bezares et al. 2016; Sertsios 2020). Sustainable investment, investors and third-party supply chains regarding firms' environmental and social performance as important investment criteria should receive greater concern (Li et al. 2020). Customer appreciation for sustainable marketing practices to improve firms' competitive advantages cannot be ignored (Arseculeratne and Yazdanifard 2013). Sustainable technologies and strategies also help move the marketplace on the right track as costs are driven downwards (Siegrist et al. 2020). A nuanced understanding of stakeholders' demands, cooperation, willingness to enhance growth prospects and competitiveness is necessary (Gómez-Bezares et al. 2016). The firm's selection related to adopting a sustainable business model for long-term planning to reinforce resilience, increase sales, reduce risk, create a corporate culture and improve brand value also needs to receive greater focus (Ketata et al. 2015). Further studies on the dynamic capabilities needed to capture positive conservation strategies related to sustainable competitive advantages are suggested (Katz-Gerro and Sintas 2019).

Overall, setting a sustainable competitive scale and guideline actions for firms according to their capabilities to create unique organizational process combinations to collect strategic knowledge and improve performance is recommended.

4.3. Sustainable Stakeholder Engagement

Stakeholders are owners of the firm and are committed to its total performance, which also comprises environmental and social performance (Soppe 2009). Ownership is not only for pure capital investors but also shared by a broader group of other stakeholders with more responsibility, such as employees, NGOs, or institutional stockholders with clear interests. In SCF, long-term stakeholder wealth creation from the adoption of the sustainability concept into business strategies and operations as presented in the configuration of self-generated and independently verified stakeholder engagement is reported (Gómez-Bezares et al. 2016; Li et al. 2020; Scholtens and Zhou 2008). For instance, the main issues driving corporate financial sustainability performance are investigated using a stakeholder background because leadership faces greater scrutiny from stakeholders and regulators in larger firms given their size (Artiach et al. 2010). Debt-based reimbursement is analytically demonstrated to moderate firms' debt and equity costs (Edmans and Liu 2011). Managers' and debtholders' alignment interests are persuaded by initial debt and reduce the risk of policy decisions and simplify diminishing debt (Cassell et al. 2012; Phan 2014). A firm is confirmed to enhance knowledge-sharing and improves management capacity when it endures functional cross-ownership in the same industry (Gao et al. 2019). Major stakeholders are determined as having the power to appoint directors on the board of directors to influence the firm's green governance issues (Li et al. 2020). With the intensification of corporate-labor issues, the literature on internal organization and corporate finance is extensive and has gained attention. The role of interior labor is disseminated (Tate and Yang 2015), and nonexecutive ownership (Bova et al. 2015; Hochberg and Lindsey 2010), internal inequality payments (Mueller et al. 2017), nonattendance employees (Bennedsen et al. 2019) mobility markets and teamwork (Klasa et al. 2018) comprise the themes studied, among others.

Proper relationship management with primary stakeholders, such as capital providers, employees, customers and local communities, is directly bound to the additional value that reflects the equilibrium between differentiation and legitimation (Hillman and Keim 2001; Gardberg and Fombrun 2006; Scholtens and Zhou 2008). The equity balance formed by large stakeholders efficiently restrains short-term self-interest behavior and disseminates long-term sustainable performance (Bennedsen and Wolfenzon 2000; Volpin 2002; Sertsios 2020). However, firms face challenges integrating business activities when focusing on social stakeholders, such as employees, the community and the supply chain (Dunphy et al. 2003). An undesirable effect exists when needing to communicate with promising stakeholders on executive reimbursement sympathies (Ouyang et al. 2019). The firm itself or its stakeholders need to redefine their targets and restructure operational processes into more sustainable ways that are broader than those initiated by primary stakeholders to rapidly catch up with a growing market. Firms are advised to set up social responsibility and/or environmental protection committees and other constitutions to manage stakeholders' relationships, especially through top-level institutional design (Liao et al. 2015). Integrating environmental issues into strategic planning during the sustainable development process to consider the needs of various stakeholders is recommended for proactive business strategies (Buysse and Verbeke 2003; Engert et al. 2016). Furthermore, public pressure is advanced as a novel problem-solving tactic for integrating environmental safety and economic growth to lessen the deficiency (Siegrist et al. 2020). The explicit use of the social concept, including customers' and suppliers' networks, is argued to positively correlate with informal financing and customer concentration (Peng et al. 2019). The importance of ecological requirements is emphasized, and firms' environmental provisions are noted to help stakeholders recognize upcoming economic costs and benefits related to their performance (Baboukardos 2018).

Although prior studies have attempted to increase social and environmental roles related to financial performance, the results have also yielded conflicts, making it extremely difficult to draw

any general conclusions. For instance, enhancing corporate innovation is informed by the impacts of political connections and not by nonconnected firms (Su et al. 2019); whereas firms' earnings declines related to more government substitutes is reported as not necessarily helpful to improving stakeholder information (Zhao et al. 2019). Corporate decision making becomes more complex when a firm attempts to balance its financial performance (Salzmann et al. 2005). Problems arise when firms inadvertently incentivize employees and executive systems that do not exploit stakeholder benefits and turnover margin, and higher leverage may create inconsistencies between consumers and firms' interests, whereas the alignment of investors and managers could distress debtholders, indicating adverse debt requisites for borrowing firms (Freund et al. 2018).

The literature on the connection between sustainability and firm performance is fragmented. It cultivates a concentration on a single dimension of the TBL rather than a balance between the TBL and the relationship with profitability and aspects of shareholder gains (Gómez-Bezares et al. 2016). Establishing sustainable development is difficult in the short-term, making the implementation of the sustainable business model complex (Barton and Wiseman 2015). Therefore, firms need to change their major stakeholders' ownerships depending on the relevant stakeholder extent in their turnover. Multidimensional approaches to the sustainable development concept instantaneously connect to the TBL, and various value creation aspects must be further investigated, particularly during economic and financial crises and their aftershock and recovery stages. If a firm is ready with wealth-protective possessions during market fractures, then it can develop sustainable frameworks for highly desirable investment assets.

Furthermore, a conventional synthesis and optimization of sustainable investments with higher environmental and social performance achievement while preserving excess financial returns is needed (Peylo 2012). Finding the causal relationship between sustainable practices and stakeholder added value is urgent because the sustainable development process fundamentally relies on demand-driven interrelationships (Hansen et al. 2013; Margolis and Walsh 2003; Soppe 2009). From a societal dimension, sustainable practices for indirect subventions and social grants or regulatory burgling as a market failure are lacking because they would signify considerable costs to the public and would be paid by the community while the extra returns are privatized. Inclusively, investors' archetype extended to a stakeholder's approach includes long- and short-term multidimensional arrangements consistent with the overall sustainable performance throughout the entire management network, and stakeholder information flow used to criticize distinct resources and expertise is missing.

4.4. Circular Economy

The information on CE provided by firms is an attractive topic in the sustainability literature. A CE refers to the transformation of a traditional linear economic model into a circular one to minimize raw materials and energy dependence and to reduce the environmental impact of production and consumption (Scarpellini et al. 2020). The concept has arisen and is key for sustainable economic development through which firms define and form their business investments and activities in a closed loop (Pratt et al. 2016; Franco 2017). The CE literature has focused on elements involving both financial and non-financial key socio-environmental indicators that incentivizes firms' commitment to handling existing obstructions and practicing circular business model adoption (Bocken et al. 2014, 2016; Ormazabal et al. 2016, 2018; Witjes and Lozano 2016). For instance, a circular business model that aims to reduce firms' reliance on raw materials is identified to foster the transition to renewables from fossil fuels as a sustainable production adoption in the supply chain (Linder and Williander 2017; Zamfir et al. 2017). Management accounting as an environmental management implementer is demonstrated as explicit assessment methods to calculate the value of production flows, thus delivering precious information for the decision-making process and for sustainable management considering circular business models (Albelda 2011; Li et al. 2019).

From the corporate finance concept, relevant resources, including direct funding, financial encouragement and achieving communities are economic tools that aggravate the CE. The significance

of financial provision through subsidies and other inducements in the recycling industry is highlighted, where investments in technology development are important (Pan et al. 2015; Masi et al. 2017). Stakeholders' collaboration in codecision and coproduction, as well as in financing projects, are indicated to escalate the transition to a CE (Daddi et al. 2017; Velenturf and Purnell 2017). Small and medium firms are confirmed as needing more government support to adopt sustainable manufacturing practices given their insufficient capital (Moktadir et al. 2018). These advanced CE solutions are proven to recover firms' environmental investment costs (Ghisellini et al. 2018). In this context, fiscal availability, the quality of a firm's financial resources and public subsidies must be implemented in SCF to perform in a CE.

CE is a complex model concerning various environmental issues and different investments areas, such as eco-innovation, a firm's environmental improvements, or energy savings and renewables (Ekholm et al. 2013; Portillo-Tarragona et al. 2018; Fondevila et al. 2019; Ng and Tao 2016). The CE embodies an adequate capability for investing in activities to close loops, and a higher level of related accomplishments are carried out. Hence, the CE involves adapted financial mechanisms showing that large financial resources are needed to invest in pilot projects (Su et al. 2013). Prior studies also concentrated on financial resource interests (Halila and Rundquist 2011; Cruz-Cázares et al. 2013), capital assessments, venture capital or credit institutions, cash flows and own funds expansions or public funds obtainability (Johnson and Lybecker 2012; Chertow 2000). However, the limited financial capability for CE investments is affirmed as a primary management issue (Aranda-Usón et al. 2019; Shahbazi et al. 2016).

The adoption of a CE in businesses has yet to establish circular processes and in-depth analyses in the sustainable corporate financial literature. It should be noted that the literature refers to a firm's internal resources and capabilities that are not precisely associated with the CE (Del Río et al. 2017; López and Montalvo 2015; Kiefer et al. 2019; Portillo-Tarragona et al. 2018). This is because of the great difficulty in applying each specific resource and capability (Aragón-Correa and Sharma 2003; Scarpellini et al. 2020). In particular, the financial behavior in a CE is influenced by not only internal factors but also the external context (Liu and Bai 2014). Therefore, future studies on corporate social responsibility may have effective impacts on investigating the CE in SCF since it is framed in the TBL of sustainability (Sihvonen and Partanen 2017; Stewart and Niero 2018; Merli et al. 2018). Collaboration within the CE, as an example, is industrial symbiosis, which is proposed in advanced literature (Daddi et al. 2017; Tseng and Bui 2017). External ventures, which give investing firms opportunities to form new and distinctive potentialities that are intensely successful or even possibly terrorize corporate capabilities (Rossi et al. 2019, 2020; Ma 2020), could be exploited, supported and expanded by future studies.

The investigation into the characteristics of different financial resources for the CE remains unsolved. Financing synergy partnership problems are limited in eco-industrial development because the literature discusses taxes and government subsidizations (Aid et al. 2017). The related uncertainty and complexity imply stronger confidence for loans granted in high-risk environments and reduces the funds that flow to investment activities (Kim et al. 2016; Cecere et al. 2018; Polzin et al. 2017). Furthermore, some research areas are rarely explored at the micro-scale, such as financial resources' characteristics involved in circular businesses. Many unexplored factors still remain in the transition to a CE, such as financial resources scarcity, insufficient financial systems and a shortage in support from communal institutions, causing slow CE adoption even when the concept's benefits are being increasingly recognized (Rizos et al. 2016; Ormazabal et al. 2016, 2018). Inadequate investments and the risks related to circular infrastructures and activities, as well as insufficient investments, are obstacles to the transition to a CE. Further investigations should address the financial risks in circular businesses and should encourage the initiation of business strategies, learning and innovation and enable cross-cooperation and coordination.

4.5. Sustainable Corporate Finance Innovation and Risk Management

Innovation refers to the firm's research and development activities that result in a new or in raising the quality of a product/service or process (Klette et al. 2004). Innovative developments arise from new product/service demand or from new technologies (Ang 2019). Firms increase their search for revolutions by implementing new business strategies involving the distribution of new digital technologies, which results in significant impacts on organizations (Richard and Devinney 2005; Seru 2014). Innovation productivity and knowledge accumulation are substantially linked to firms' market values such that firms with strong innovative investments represent a confident evaluation, and these expenditures contribute significantly to earnings (Hall et al. 2005; Rubera and Kirca 2012; Warusawitharana 2015).

In the literature, financing volume, quality, availability and public financial assistance provision have been analyzed (Scarpellini et al. 2020). The integral effect of various capital resource restrictions on eco-innovation investments has been considered (Lee and Min 2015; Triguero et al. 2017; Ociepa-Kubicka and Pachura 2017). The capabilities that enable eco-friendly performance are continuously debated regarding financial resources and its applications (Aranda-Usón et al. 2019). From another viewpoint, the organization's innovation is achieved by generating, adjusting and extending the resource base from a dynamic capabilities' perspective (Teece 2007). Previous studies analyzed the organizational procedures antecedent that managers modify resource utilization to create innovative value within dynamic capabilities (Ambrosini et al. 2009; Eisenhardt and Martin 2000; Wu et al. 2012). Innovations can technically provide firms with the capabilities to reconfigure the value chain and disrupt management (Engel 2011). However, such innovations are developed from the technical field and from redesigned business models that modify supply chains and create new markets (Rossi et al. 2020). Therefore, mapping novel financial innovations models to indicate systemic attributes and forecasts of constrains and circumstances should be more implied.

The most effective financial innovations are the debt provision and loan contract because they manage most information and agency problems (Ang 2019). However, individual firms cannot completely fulfil the complicated innovation process, value and competitiveness because of the nature of the complex digital economy, which produces interrelated markets and firms (Rossi et al. 2020). Firms that remain standalone are assimilated into diversification because of fewer and less innovative procurements (Seru 2014). Accountability for diversification is limited since a single firms' disclosure could be ruined by exhibiting no differences from the market (Ang 2019). Because practical strategies entail multi-faceted interactions among numerous resources and expertise skills, firms need to design and endure their cooperation networks and alliances to develop and maintain sustainable competitive advantages over continual and constant value creation with their partners (Barnes 2002; Sabat 2002; Pagani and Pardo 2017).

Collaborative innovation among supply chain partners is proposed as an innovation process for pioneering new products/services (Cao and Zhang 2011). A firm's internal and external stakeholders are involved in formal networks that assimilate processes and procedures and scrutinize and manage the operational performance that aims to minimize risk (Darnall et al. 2010). In particular, a firm with cross-ownership and institutional investors in the same industry has more corporate innovations and is specifically active in technological innovations than a firm without such cross-ownership (Gao et al. 2019; Ismail et al. 2011; Rossi et al. 2019). In this milieu, policy and regulation with respect to corporate finance innovations should have greater effort spent on them because political connections can help control the network, and connected firms can be more innovative (Su et al. 2019).

In practice, financial innovations are mostly driven by technological progress, whereas the rest are dealing with risk management by adapting to new demands from fundraising and transactions, modification of financial constraints and supply chain distress related to financial safety (Ang 2019). The corporate development and financial risk relationship are such that a firm dramatically experiences financial distress once its growth rate becomes undue (Cui et al. 2007) Thus, employment of sustainable voluntary behavior, stakeholder collaboration and independently self-reported verification positively

affect total risk through cost reductions, sustainable capital assessments and process innovation related to (1) stable stakeholders and financial community relationships; (2) reductions in lawsuits and political risk; (3) high material and energy efficiency; (4) effective financial planning and business scheduling; (5) productivity improvement; (6) better employees and communally sensible customer attraction; and (7) income improvement (Brammer and Millington 2008; Funk 2003; Gómez-Bezares et al. 2016; Soppe 2009). Future studies on how to voluntarily balance environmental, social and financial performances and stakeholders might enable the accomplishment of lower volatility. By linking to qualitative risk categories, firms can achieve more stable cash flows and extensive cost reductions in potential financial crisis.

Financial entities, such as banks, credit rating agencies and institutional investors, are increasing their interest in financial risks and related opportunities (Galaz et al. 2018). Stakeholders benefit from risk-taking by favorably reacting to debt over equity issuances, whereas the trade-offs between organizational growth and higher financial risk might have a negative effect on internal corporate firmness (Wu et al. 2012). Internal debt combines managers' and external debtholders' interests, which encourages managers to practice risk-reducing behavior (Cassell et al. 2012; Edmans and Liu 2011; Phan 2014). However, because of unbalanced information between managers and investors, stakeholders become less sensitive to debt information (Freund et al. 2018). Simultaneously, nonexecutive employees are more sensitive to firm risk because their income is more closely related to the firm's wealth than shareholders' income (Sertsios 2020). The nonexecutive extension affects firms' strategic plans, and firms may take lower risks when nonexecutive ownership is high and, consequently, acquire less expensive loans (Bova et al. 2015). In contrast, conflicts of interest between debtholders and equity holders make firms take higher debt levels for more risky technology, implying a perilous decision in corporate finance. In equilibrium, both safe and risky technologies are evenly beneficial and (1) some firms prefer a risky technology with higher debt, whereas (2) others choose a safer technology with lower debt (Chen et al. 2020).

Insufficient investments and risks associated with conservational performance improvements have been implemented through direct public funding, such as research and development project grants, operational infrastructures and supporting incubations (Aranda-Usón et al. 2019). It has also been demonstrated that the associated uncertainty implies a higher collateral level for loans granted with high investment risk and low funding flows (Cecere et al. 2018; Kim et al. 2016; Polzin et al. 2017). Firms operating in industries with higher risk tend to have higher cash holdings for precautionary changes (Haushalter et al. 2007). Furthermore, reputational risk has become part of financial risk. A firm that is financed in a sustainable manner creates more normative mission statement choices to impute an equal interest to all stakeholders (Soppe 2009). For instance, the financial decision-making process is affected by environmental pressures, energy cost increases or other activities, such as risk management policies or financial provisions for social responsibilities, environmental contamination or wildlife habitats restoration, and is becoming more urgent (Scarpellini et al. 2020). SCF has the potential to deliver a broad range of new sources of competitive advantages that influence value creation in both the short- and long-term. Sustainable financial flows related to natural disaster, war, terrorism and pandemic risks are argued as becoming relevant data for firms resilient to corporate finance risk.

4.6. Sustainable Supply Chain Ethics

It is argued that firms cannot be reduced to one financial dimension but need to be extended to multidimensional perceptions (Soppe 2004). One of the important perceptions is ethical values, and sustainability needs to be attempted as a strategic plan to engage in a broader investment approach (Soppe 2009). The ethical framework is fundamentally a moral integrity standard extended to the integrative practice to balance firms' operational procedures (Kaptein and Wempe 2002). The ethical framework necessities in SCF are explained through the financial characteristic of human nature on the subject of economics, such as taskforce declaration and ownership perception, together with corporate social responsibility and socially responsible investment concepts. However, whether ethical

apprehensions are part of a financial decision remain unclear (Ang 2019). Ethics in a corporation are currently only supposedly distributed because firms' financial rewards prefer cost efficiency rather than ethical behavior and punish unethical but profit maximizing behavior.

The fundamental foundations on the applicable ethical framework are expectations of personal behavior and financial choices, interpreted as a standard for ethics pricing and relative cost control assistance. The SCF adopts behavioral developments by increasing the human morality of economic entities through encouraging business ethics. In particular, trust in finance is found to be the foundation of all transactions in the supply chain because firms deal with those they can trust, and financial markets cannot perform without trust (Ang 2019). However, the nature of the firm's economic behavior diverges from severely selfish to optimally managing relationships, making firms face the challenges related to assimilating corporate financial events while also concentrating on social stakeholders, such as staffs, supply chain partners and the public (Dunphy et al. 2003). Human nature is characterized not only by environment corporal superiority but also by firms' morality and mental abilities (Soppe 2004). A broad evaluation of the ethical and behavioral framework is required to determine the moral character of the financial agents and the relative cost of firms' ethical behavior. However, the literature only addresses the requests for the moral pricing that a firm chooses to apply in a sustainable financial policy that only incorporates a broader definition of firms' targets (Kaptein and Wempe 2002; Soppe 2004, 2009). This leads to serious corollaries, such as greater debt and further conflicts between a company's shareholder and board. For instance, firms with a highly intense green governance structure and social responsibility have an intensely instituted corporate culture, strategy, vision and morality (Li et al. 2020). In the progression of financing transactions with these companies, there is less evasion risk and moral hazards (Allen et al. 2005), whereas the time lag between the prerogative money makes transactions more morally vulnerable (Soppe 2009).

However, studies on sustainable corporate finance aim to fulfil the gap between finance and a corporate sustainability strategy that entered the business ethics literature, and interior management and corporate responsibility are still lacking. Sustainable financial policies are needed to optimize the business ethics variable. From the viewpoint of the supply chain, collaborative capabilities based on the moral standard is yet to be clarified for firms to actively collaborate with their partners (Portillo-Tarragona et al. 2018). Additionally, demographic and gender equality problems also demand to be exceeded because prior corporate policies and practices may have been biased against females (Ang 2019).

5. Concluding Remarks

Although SCF has been examined in the literature, it is still an underdeveloped concept. SCF is attracting a greater focus from studies on sustainability; however, the systematization that forms firms' corporate finance practices is lacking. An integrated assessment of the literature review is crucial to identifying the knowledge gaps in existing SCF literature. This study proposed a systematic bibliometric literature review to clarify the state-of-the-art SCF and provide opportunities and potential instructions to foster further studies.

A pool of 227 publications and 705 author keywords were indicated using the VOSviewer software. In total, 30 keywords were listed at least three times, in which corporate finance, sustainability, sustainable development, corporate social performance, corporate sustainability and corporate governance had the most frequent occurrences. In total, 48 countries/territories were recorded as publication geographic distributions, and the most productive ones were the United States, China, Italia, Spain and Australia. The countries/territories with the most recent publications listed were Turkey, Vietnam, South Korea and Brazil, showing that studies are moving to developing countries, especially emerging markets with incomplete and changing financing systems that require sustainable improvements.

This study contributed to examining the bibliometric status of SCF and providing directions for future studies and practical accomplishments. A total of 30 author keywords were extracted

from the databases and were indicated into six study groups, including corporate finance in corporate sustainability, sustainable competitive advantages, sustainable stakeholder engagement, CE, SCF innovation and risk management and sustainable supply chain ethics. SCF players can refer to this study as a reference during decision making. Further, governments, professionals and firms can convey this study for useful material to support SCF practical design, planning and policy implementations related to sustainable performance. The knowledge gaps and future study directions are as follows.

- Future studies on corporate sustainability can inspect novel resources of competitive advantages and the value creation related to a firm's activities or funding accomplishments in both the short and long term. Requirements exist for implications regarding control structure rights, the establishment of monitoring positions and sustainable return generation studies, such as in financial crises and market risks control. Additionally, the consequences of sustainability index inclusion and exclusion on corporate value also need to be further investigated.
- Sustainable competitive advantages can possibly offer better SCF performance. However, there are still gaps remaining in financing and investment decision interactions, the competitive environment and organizational structure, sustainable investments, sustainable technologies and strategies. To create unique combinations of organizational processes to gather strategic knowledge and better performance, how to set a sustainable competitive scale and guideline actions for firms according to their capabilities is recommended.
- Sustainable stakeholder engagement, ownership responsibility, public pressure, social network and political connections remain unclear. The multidimensional approaches to the sustainable development concept instantaneously connect to the TBL, and various value creation conventional syntheses and optimizing sustainable investments and financial returns need to be explored.
- CE still requires many studies on fiscal availability; for example, the quality of the firm's financial resources and public subsidies, interest in financial resources, capital assessments and venture capital need to be addressed. Collaboration within the CE, such as on financial issues in industrial symbiosis, external ventures, financing synergy partnerships, circular infrastructure and activities, learning and innovation and enabling cross-cooperation and coordination among the circular network, is recommended.
- Novel financial innovation models that indicate systemic attributes and constraints and circumstances forecasts, debt provision and loan contracts and collaborative innovation among supply chain partners represent potential study opportunities to balance environmental, social and financial performances. However, qualitative risk categories still tolerate firms having more stable cash flows and extensive cost reductions. In potential financial crises, studies on financial entities, such as banks, credit rating agencies and institutional investors, are needed for financial decision-making processes. Risk management policies or financial provisions for social responsibilities, environmental contamination or wildlife habitat restorations are becoming more urgent. Sustainable financial flows related to natural disasters, wars, terrorism and pandemic risks are arguably becoming relevant data on firms' resilience to corporate finance risk.
- A sustainable supply chain ethical framework is necessary for SCF ethical apprehensions because financial decisions remain unclear. Trust in finance, a firm's behavior, moral pricing requests and sustainable financial policy must be further discovered. From the supply chain viewpoint, collaborative capabilities based on the moral standard and demographic and gender equality problems also call for future studies.

Some limitations to this study exist. First, this study used data from the Scopus database. Future studies may utilize other databases or combine various sources for improved generalizability of the results. Second, the review process used only articles and review papers, where future studies can also focus on related books and book chapters to extend the range of the data. Third, the complexity and uncertainty of SCF and financing decisions remain mainly uncultivated (Khoo and Cheung 2020). Future studies are suggested to develop a more in-depth quantitative analysis to explore the

recommended sector, and applying expert systems and fuzzy tools to fill this weakness is proposed for both academic and practical investigations.

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