

# **Corporate Social Responsibility and Supply Chain Management: Framing and Pushing forward the Debate**

## **Abstract**

Corporate social responsibility (CSR) in supply chain management (SCM) is one of the burgeoning fields of the last decade. Significant interest in this area has led to a large number of publications in recent times. For this reason, this study has been carried out to provide a comprehensive framework and future research directions for this topic. This work presents a bibliometric analysis of relevant publications dealing with CSR in SCM up to April 2019. As well as the presentation of an overview of publications and citation structures, it also explores journals and countries based on a bibliometric study. To collect the relevant data for this study, we have utilized the reliable SCOPUS database. Our results highlight the significant contributions of journals, authors, universities, and countries on this topic. With the help of "Visualization of similarities (VOS)" viewer software, this study investigates bibliographic coupling of sources and countries. It also presents co-occurrence of keywords and graphic representations of the bibliographic materials. Finally, it provides an overview of all relevant review papers in this field and a comprehensive view of related research fields.

**Keywords:** *Bibliometrics; Tertiary Study; CSR; Supply Chain Management; Network Visualization*

## 1. Introduction

The concept of Corporate Social Responsibility (CSR) was introduced by Bowen and Johnson, way back in 1953; since then it has become a useful and important strategy for businesses (Bowen and Johnson, 1953), which can help to establish goodwill as well as social value for firms in a global competitive environment. CSR is an internal policy of firms or organizations which integrates ethical, social and environmental concerns. Generally, there are two different perspectives behind the implementation of CSR as an organizational policy: a) ethical and b) strategic (Carroll, 1999). From the ethical point of view, a firm's CSR implementation depends on the ethical philosophies of its top management or decision-makers. On the other hand, firms also take a strategic view when implementing CSR in order to increase trust in the firm and create a positive impact for their stakeholders.

Several forces encourage organizations to adopt CSR. For instance, the Business Roundtable has recently declared that the purpose of a corporation is not only to serve shareholders, but to create value for all stakeholders (Business Roundtable, 2019). The supply chain plays a significant role in business performance. Therefore, the incorporation of CSR in supply chains has great importance. There are numerous examples of businesses all over the world which have actively adopted different types of CSR in their supply chain. For instance, the IKEA foundation has allocated a huge amount of money to generate clean electricity for one million people in India and the East Africa region, while Abercrombie and Fitch (US based clothing company) has spent \$15 million to assist children suffering from serious illnesses. Bosch has invested 50% of its budget for the upgrading of technology to creating a healthy environment by reducing CO<sub>2</sub> emissions in their supply chain. In India, big corporate entities such as TCS, Tata steel, Johnson & Johnson, etc. have already introduced a code of ethics for their suppliers to strengthen social responsibility by planting trees, providing healthcare services, give effort for the development of education for members of their society (Biswas et al., 2018, Modak and Kelle, 2019). Companies have begun to incorporate CSR in supply chains in order to be sustainable in the market for the long run (Raj et al., 2018). At the same time, the number of published papers on this topic has also increased in recent decades (Mardani et al., 2020).

Due to this increasing number of published papers in the past two decades, it is necessary to analyze this corpus through a comprehensive review of the literature on the use of CSR in supply chains. The objective of this study is to analyze the CSR literature in the context of SCM using a

bibliometric method. Bibliometric studies are generally used to develop a detailed outline of a particular research topic. It provides all-round information on the research articles published on that topic and analyzes their contributions from different viewpoints. Bibliometric surveys have become more popular among researchers during the last ten years. Several studies have been carried out in the operations management field using bibliometric analysis to analyze various research areas, such as closed-loop supply chains and reverse logistics (Kazemi et al., 2018), sustainability (Franceschini et al., 2016) and disruption risks in supply chains (Xu et al., 2020). Some authors have also carried out reviews in the context of CSR. De Bakker et al. (2005) analyzed the development of research and theory in the CSR and Corporate Social Performance literature over 30 years and suggested implications for further research. Zemigala (2015) presented a bibliometric study to highlight the contribution of different countries and continents in the scientific research on CSR. The present study deeply analyzes the contribution of the leading countries and journals and considers the updated literature as far as April 2019.

The main objective of this paper is to analyze research related to CSR-SCM through different dimensions, such as leading authors, institutions, journals and countries. This study analyzes the collected publications using various quantitative as well as qualitative indicators. In this study, we have identified the most productive/influential papers based on number of citations. Additionally, this study provides a tertiary overview of the existing review papers in this field as well as a comprehensive discussion of potential future research directions. This study helps to address the following questions: How many research papers have been published on the application of CSR in supply chains? What are the chronological publication trends and citation patterns of such publications? Which research papers have attracted the most attention from scholars? Which authors, institutions, journals and countries have contributed most to this research field? Which journals are most closely connected in this field of research? What is the trend regarding collaborative works within different countries? Which keywords are mostly used and what other keywords are correlated with them?

We have tried to find answers to the questions postulated above using network analysis and a tertiary study of relevant review papers. We have used the visualization of similarities (VOS) software to conduct the network analysis (Kessler, 1963; Van Eck and Waltman, 2010).

The rest of this paper proceeds as follows. Section 2 discusses the research methodology. We provide the results and discussion in Section 3. Section 4 exclusively focuses on a comparative

study of the leading sources using the VOS viewer software. Section 5 presents a country-by-country analysis using network visualization. Section 6 provides a tertiary study along with future research directions in this area. Finally, the conclusions of the paper are presented in section 7.

## **2. Research Methodology**

The SCOPUS database was used for the data collection in this study. SCOPUS covers more than thirty-four thousand peer-reviewed journals from approximately 11,678 publishers. SCOPUS and Web of Science (WoS) are the most commonly used and reliable databases for scientific publications. Scopus covers 22,794 active titles and 13,583 inactive titles, while Web of Science (WoS) provides coverage of more than 18,000 journals. Although WoS has a long and successful history as an authenticated data source, SCOPUS has recently progressed significantly, to complement WoS. Additionally, SCOPUS is more user-friendly than the WoS database. Using the SCOPUS database, the present study collects information about those publications which discuss corporate social responsibility (CSR) in supply chain management (SCM) up to April 2019.

Using the SCOPUS database, we collected several types of data – including contributing journals, authors and countries – in a csv file. We used attributes such as: author name, paper title, year of publication, source name, citation count, affiliations, abstract, keywords and references. The software counts root words only. We thus created a thesaurus of CSR terms. The SCOPUS search engine reveals a total of 735 relevant documents up to April 2019, which have used both "Corporate Social Responsibility" and "Supply Chain" as keywords in the title and/or abstract (TITLE-ABS-KEY). Out of these 735 documents, we excluded 163 documents, including eighty-one conference papers, fifty-four book chapters, seven conference reviews, seven books, four short surveys, five editorials, three notes, and two errata. We thus considered for our sample a total of 572 documents, including 526 published articles, 35 reviews and 11 articles in press.

We also researched commonly used keywords and the associated topics. The collected data were categorized and presented based on bibliometric indicators such as H-index, citation per paper (C/P), and a range of citation thresholds (50, 20, 10, 5 and 1 citations). The indicators TP and TC respectively measured quantitative and qualitative performance. TP covers evidence of publication patterns and helps to identify the most productive journals, authors, institutions and countries. The citation-based indicator, TC, is well recognized for measuring the quality of the publication. TC presents the relevance of a particular publication to developing new research work.

Citations are useful to identify the origin of an idea/concept and to acknowledge the authority of the original source. Thus, a higher TC value denotes greater acceptability, which is why it appears as the most recognized basic qualitative indicator to measure the excellence of publications. The H-index is another well-recognized bibliometric indicator, which represents TP and TC together in a matrix array. The indicator C/P is useful for comparative studies, as it presents average citations per paper. Both H-index and C/P aim to determine both quantitative and qualitative performance in a single parameter. Citation thresholds help to determine the percentage of quality publications as recognized by other researchers.

We also analyzed the bibliographic coupling of countries. Countries are said to be bibliographically coupled if they are jointly involved in research works. Two documents receive a point in the co-citation index when both documents are commonly referenced by a third document (Small, 1973). The co-occurrence of author keywords explores the most used research topics in a given field of research. This study utilizes the visualization of similarities (VOS) software (Van Eck and Waltman, 2010) to analyze a network visualization of bibliographic coupling of countries (Kessler, 1963), co-citation of journals (Small, 1973), and co-occurrence of keywords. There are several software tools (e.g. VOS viewer, Pajek, Bibexcel, BibliometrixR, Citnetexplorer, Gephi) which can be used to generate a network graph, but a few of these can use SCOPUS data directly. The VOS viewer software can generate a network visualization using SCOPUS data directly. The VOS Viewer also has a sufficient toolkit to analyze the resulting graphs. This software tool became popular not only because of its user-friendly nature, but also because of its attractive network graph generation function (Laengle et al., 2018a, 2018b; Merigó et al., 2019; Modak et al., 2019). The VOS mapping technique is closely associated with the well-known technique of multidimensional scaling (Waltman et al., 2010).

The performance of leading journals and countries are analyzed in this study through graphical visualization. Analysis of bibliographic coupling and co-citations can help readers to understand the bibliographic connections among journals and countries. This network of bibliographic coupling gives information on closely linked countries in a given field of research. Co-occurrences of keywords are useful to identify those topics which are most commonly used by authors in their research papers. A node in the network represents a particular entity in a bibliometric coupling network. For instance, in an author network diagram, each author is indicated as a node. Authors with a higher number of papers will be represented by a bigger node.

The weight of the link between two authors is greater if they have co-authored a greater number of papers.

### 3. Discussion and Analysis of Results

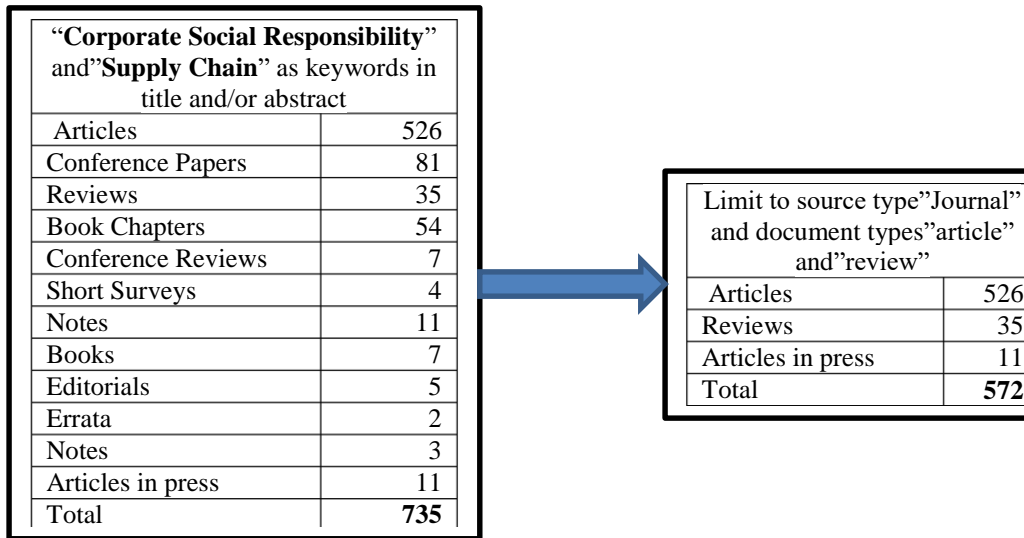


Figure 1. Document selection process

This section contains three subsections, as follows: publication and citation structure, most influential publications, leading authors, institutions and countries.

#### 3.1 Publication and citation structure

The competitive business environment in today's fast changing world has compelled business managers in supply chains to consider CSR. Consequently, the number of published papers on this topic has increased exponentially in the last fifteen years. Figure 2 demonstrates the yearly number of publications on CSR and SC in the SCOPUS database.

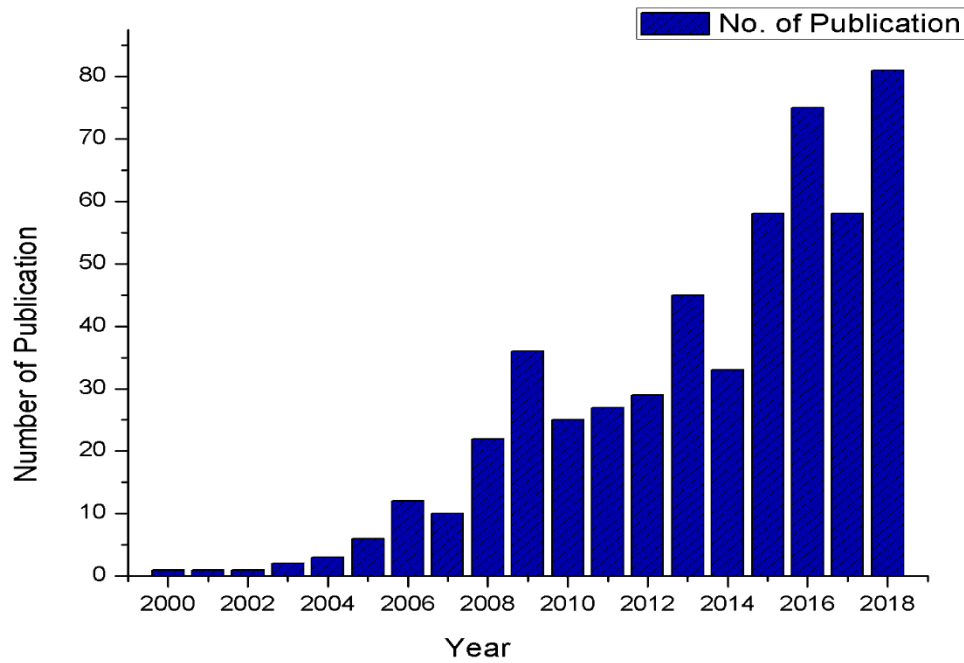


Figure 2. The annual number of publications on CSR and SC

The results show that this topic has become popular during the last decade. The 572 documents studied here were all published from 2000 to April 2019. 2018 shows the highest performance of any year, with 81 publications, followed by the year 2016. We may also note that 47 articles were published during the first four months of 2019. According to the SCOPUS database, these 572 documents received a total of 14,393 citations up to 12th May 2019. The collected data are classified by year and presented in Table 1. Table 1 summarizes the data according to categories including TP, TC, H-index, TC/TP and five citation thresholds, including more than one, five, ten, twenty, and fifty citations. **These citation thresholds are used to identify the level of influence of a journal based on the citation of the papers that have received at least one citation (Martínez-López et al, 2020).**

**Table 1. Annual citation structure**

Year	TP	TC	H	TC/TP	≥50	≥20	≥10	≥5	≥1
2000	1	286	1	286.0	1	1	1	1	1
2001	1	10	1	10.00	0	0	1	1	1
2002	1	114	1	114.0	1	1	1	1	1
2003	2	80	2	40.0	1	1	2	2	2
2004	3	102	3	34.0	0	2	3	3	3
2005	6	278	4	46.33	2	3	3	4	5
2006	12	1436	8	119.67	7	8	8	9	10
2007	10	312	8	31.20	1	6	8	9	10
2008	22	1857	19	84.41	11	19	19	21	22
2009	36	1905	24	52.92	15	25	26	29	32
2010	25	1037	15	41.48	5	14	19	23	24
2011	27	1227	14	45.44	4	11	14	18	24
2012	29	1233	14	42.52	8	11	16	17	22
2013	45	1224	19	27.20	3	18	30	33	39
2014	33	1050	15	31.82	9	15	22	26	30
2015	58	831	16	14.33	2	14	24	39	54
2016	75	741	16	9.88	1	12	25	43	67
2017	58	429	10	7.40	1	8	11	25	45
2018	81	222	9	2.74	0	1	7	13	49
April									
2019	47	19	2	0.40	0	0	0	0	12
Total	572	14393	60	25.16	72	170	240	317	453
%					12.6%	29.72%	41.96%	55.42%	79.19%

Abbreviations: TP and TC = Total papers and citations; H=h-index, TC/TP=Average citation per paper; ≥50, ≥20, ≥10, ≥5, ≥1 = Number of papers with equal or more than 50, 20, 10, 5 and 1 citations.

It can be observed from Table 1 that CSR in the supply chain properly comes into focus after 2000. During the period 2000 to 2002, the total number of publications is three, distributed as one in each of these three years. Moreover, the number of citations corresponding to published



papers in 2000 is noticeable (TC 286). In the last ten (2009 to 2019) years, 514 papers – close to 90% of the total (572) – have been published. 2009 has the highest rate of citations, at 1905, along with a strong H-index value. Table 1 also provides details of the number of articles that have reached the various citation thresholds, while Figure 3 provides a graphical representation of this.

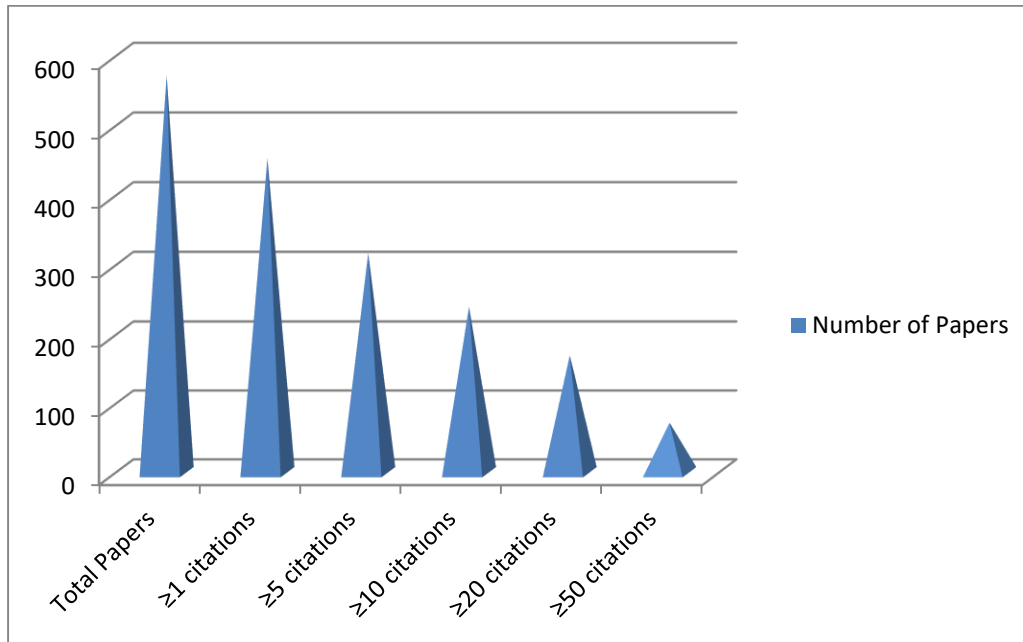


Figure 3. Citation patterns of the 572 publications

We may note that 119 of the documents analyzed have not yet received any citations. 80 out of those 119 articles have been published during the last three years (2017, 2018 and 2019). Interestingly, 72 articles have received more than 50 citations, and 30 out of those 72 publications have reached the landmark of 100 citations. More than 25% of the total publications have received more than 25 citations. The next sub-section depicts and analyzes the most frequently cited papers in this field.

### 3.2 Influential papers

In the previous sub-section, we saw that 72 articles have had more than 50 citations. This sub-section is dedicated to a more detailed breakdown of the twenty most frequently cited research papers out of the 572 papers studied (see Table 2).

**Table 2. Top 20 most cited documents related to CSR and SCM**

<b>R</b>	<b>Authors</b>	<b>Journal</b>	<b>TC</b>
1	“Van Wassenhove L.N. (2006)”	“Journal of the Operational Research Society”	584
2	“Carter C.R., Easton P.L. (2011)”	“International Journal of Physical Distribution and Logistics Management”	556
3	“Maloni M.J., Brown M.E. (2006)”	“Journal of Business Ethics”	401
4	“Hutchins M.J., Sutherland J.W. (2008)”	“Journal of Cleaner Production”	397
5	“Govindan K., Khodaverdi R., Jafarian A. (2013)”	“Journal of Cleaner Production”	343
6	“Andersen M., Skjoetti, Larsen T. (2009)”	“Supply Chain Management: An International Journal”	290
7	“Carter C.R., Kale R., Grimm C.M. (2000)”	“Transportation Research Part E: Logistics and Transportation Review”	286
8	“Tate W.L., Ellram L.M., Kirchoff J.F. (2010)”	“Journal of Supply Chain Management”	268
9	“Dao V., Langella I., Carbo J. (2011)”	“Journal of Strategic Information Systems”	255
10	“Gimenez C., Tachizawa E.M. (2012)”	“Supply Chain Management”	230
11	“Ciliberti F., Pontrandolfo P., Scozzi B. (2008)”	“Journal of Cleaner Production”	213
12	“Klassen R.D., Vereecke A. (2012)”	“International Journal of Production Economics”	191
13	“Amaeshi K.M., Osuji O.K., Nnodim P. (2008)”	“Journal of Business Ethics”	179
14	“Awaysheh A., Klassen R.D. (2010)”	“International Journal of Operations and Production Management”	176
15	“Carter C.R. (2005)”	“International Journal of Physical Distribution and Logistics Management”	175
16	“Pishvae M.S., Razmi J., Torabi S.A. (2012)”	“Fuzzy Sets and Systems”	172

17	“Devika K., Jafarian A., Nourbakhsh V. (2014)”	“European Journal of Operational Research”	154
18	“Cruz J.M. (2008)”	“European Journal of Operational Research”	146
19	“Welford R., Frost S. (2006)”	“Corporate Social Responsibility and Environmental Management”	146
20	“Yu X. (2008)”	“Journal of Business Ethics”	130

In Table 2, we present the top 20 most cited papers. Here, our objective is to focus on important, relevant and influential papers in the field of CSR associated with SCM. It can be observed that Van Wassenhove’s paper, published in 2006, has the highest citation rate, with a value of 584(Wassenhov, 2006). Carter and Easton (2011) and Gimenez and Tachizawa (2012) carry out systematic literature reviews regarding the interface between CSR and supply chain. Hutchins and Sutherland (2008) analyze different indicators to measure CSR; different authors have subsequently utilized these indicators in the context of CSR-SC. In another interesting study, Carter et al. (2000) and Carter (2005) conclude that environmental purchasing has a positive impact on firms’ environmental performance. Dao et al. (2011) analyze how the implementation of IT in firms improves sustainability. Here, this implies economic, environmental and social sustainability. Ciliberti et al., (2008) describe the practices, policies, and problems faced by small and medium-sized enterprises related to CSR implementation in the supply chain. These authors arrive at the conclusion that SMEs, especially in developing countries, should adopt tailor-made strategies according to their problems.

Maloni and Brown (2006) highlight the operational strategy of CSR implementation in the food supply chain. Govindan et al., (2013) analyze sustainable supply chain models using the fuzzy multi-criteria approach. Andersen and Larsen (2009) analyze CSR practices under the domain of the global supply chain. Tate et al. (2010) inquire into how 100 socially and environmentally responsible global companies execute their CSR practices in terms of integrating and improving the Triple Bottom Line (social, environmental, & economic). Klassen and Vereecke (2012) discuss social issues such as human welfare, safety, and community development in the supply chain. Amaeshi et al., (2008) focus on codes of conduct, personal training, firms’ responsibility and how these affect suppliers in relation to CSR. Awaysheh and Klassen (2010) determine a set of multiple dimensions that relate to the extent to which suppliers are socially responsible. Pishvae et al. (2012) analyze supply chain networks under conditions of uncertainty. Devika et al. (2014) study

a closed-loop supply chain model with a multi-echelon system using a mixed-integer programming model. Welford and Frost (2006) study in detail the pros and cons (i.e. the use of codes of conduct, obstacles, benefits, etc.) of CSR in Asia through the interview-based approach. Yu (2008) elucidates the key factors which enhance labor standards and focuses on the effectiveness of CSR policies related to labor. **Although the Journal of the Operational Research Society leads Table 2, both Journal of Cleaner Production and Journal of Business Ethics have the highest number of papers in the list. All three papers from the Journal of Cleaner Production have more than two hundred citations each. The top five papers on the list have more than three hundred citations, and two among those are from the Journal of Cleaner Production.**

### 3.3 Leading authors, institutions and countries

Table 3 presents a list of the top fifteen most productive authors, journals and countries according to TP.

**Table 3.** Top 15 Countries, journals and authors.

Rank	Author	TP	Journal	TP	Country	TP	Institutions	TP
1	Cruz, J.M.	7	Journal Of Business Ethics	43	United States	116	Wageningen University and Research Centre	9
2	Eriksson, D.	6	Journal Of Cleaner Production	29	United Kingdom	82	Hong Kong Polytechnic University	8
3	Loosemore, M.	6	Sustainability Switzerland	23	China	59	Shanghai Jiao Tong University	8
4	Modak, N.M.	6	International Journal Of Production Economics	19	Australia	40	Copenhagen Business School	7
5	Panda, S.	6	Business Strategy And The Environment	15	India	33	University of Connecticut	7
6	Zhu, Q.	6	Supply Chain Management	15	Sweden	33	The University of Hong Kong	6
7	Govindan, K.	5	International Journal Of Supply Chain Management	10	Canada	32	University of New South Wales UNSW Australia	6
8	Perry, P.	5	Social Responsibility Journal	10	Netherlands	31	Bengal Institute of Technology, Kolkata	6

9	Svensson, G.	5	Corporate Social Responsibility And Environmental Management	9	Germany	24	University of Newcastle, Australia	5
10	Björklund, M.	3	International Journal Of Production Research	8	Italy	24	University of Windsor	5
11	Blok, V.	3	International Food And Agribusiness Management Review	7	France	23	University of Tennessee, Knoxville	5
12	Carter, C.R.	3	British Food Journal	6	Denmark	21	Deakin University	5
13	Cheng, T.C.E.	3	Business And Society	6	Taiwan	20	Syddansk Universitet	5
14	Chowdhury, E.H.	3	European Journal Of Operational Research	6	Spain	19	Heriot-Watt University, Edinburgh	5
15	Ciliberti, F.	3	Construction Management And Economics	5	Iran	15	Aarhus Universitet	5

Abbreviations: TP=Total number of Publications

J.M. Cruz leads this list of authors, with seven publications, followed by D. Eriksson, M. Loosemore, N.M. Modak, S. Panda and Q. Zhu. Journal of Business Ethics emerges as the most productive journal, followed by Journal of Cleaner Production. The USA has the highest number of publications in terms of countries, followed by the United Kingdom. The United States and the United Kingdom are far higher in comparison to other countries. If we categorize the countries according to continent, we can observe that two countries (USA & Canada) belong to North America, eight countries (UK, Sweden, Netherlands, Italy, France, Germany, Denmark, and Spain) to Europe and four countries (China, India, Taiwan, and Iran) to Asia. It can thereby be inferred that European countries, along with the United States, have made the greatest impression in advancing the research on corporate responsibility in supply chain management. Among Asian countries, China and India are making good efforts to contribute to developing the research on this topic. Wageningen University and Research Centre, in the Netherlands, leads the list of institutions, followed by two Asian universities: Hong Kong Polytechnic University and Shanghai Jiao Tong University. The next section describes the contribution made by the leading sources.

#### 4. Comparative Study of Leading Sources

This section presents the network visualizations of bibliographic coupling among the sources of CSR-SC publications. For this purpose, we have chosen to consider those sources which have at least five publications. The size of each node depends on its link strength. Twenty-one sources meet the aforementioned threshold. The leading productive sources mentioned above also appear significant in Figure 4. Figure 4 contains four clusters, with the red and green clusters being the most major among them. 210 links have a total of 13741 link strength. Journal of Cleaner Production and International Journal of Production Economics lead the red cluster, while Journal of Business Ethics and Supply Chain Management are the most significant presences in the green-colored cluster.

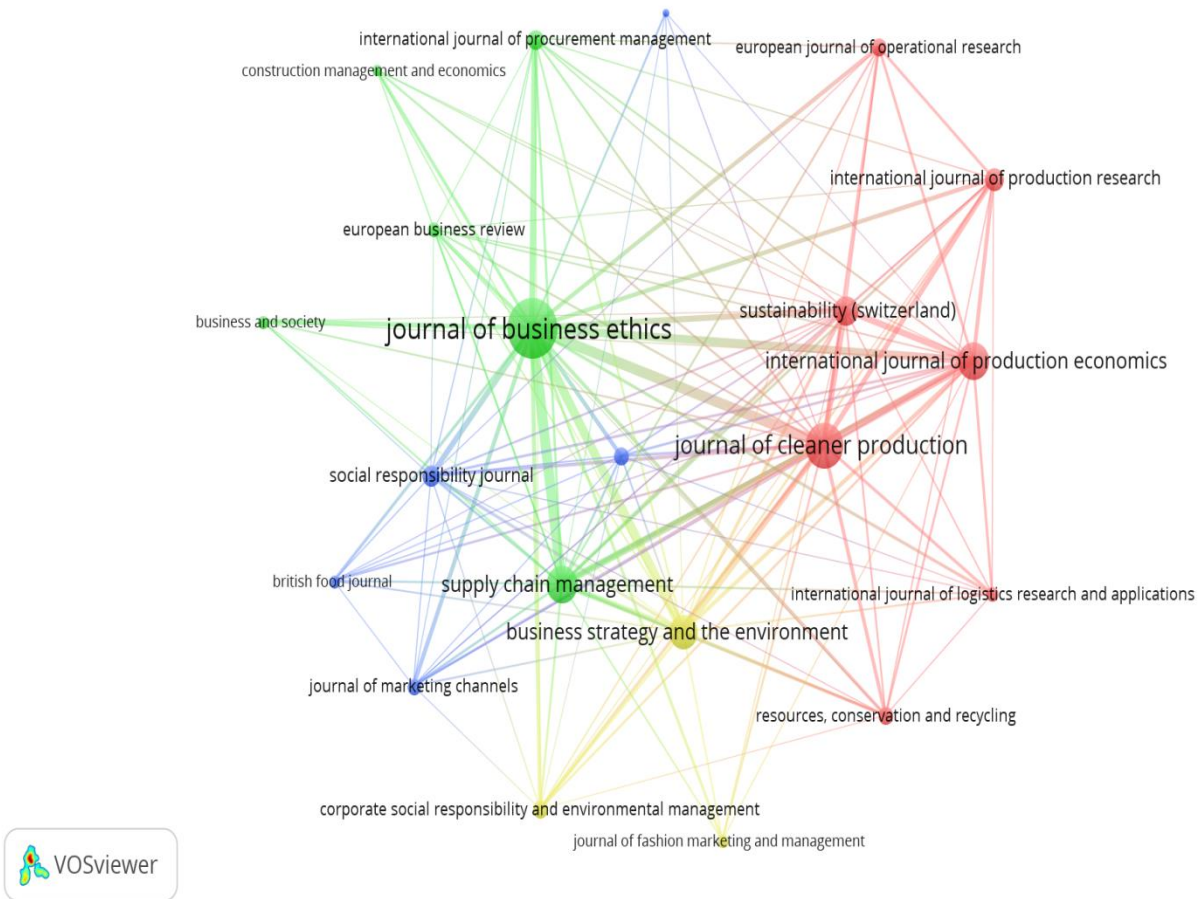


Figure 4: Bibliographic coupling of leading sources

Next, we consider the top six sources, each of which has more than fifteen relevant articles. Table 4 demonstrates the publication and citation patterns of the six leading journals.

**Table 4. Citation structure of the top six journals**

Journal	TP	TC	H	TC/TP	≥50	≥20	≥10	≥5	≥1
J. of Business Ethics	43	1907	22	44.35	12	25	30	36	41
J. of Cleaner Production	29	1551	14	53.48	6	13	18	19	27
Sustainability Switzerland	23	88	6	3.83	0	0	2	8	16
Int. J. of Production Economics	19	773	10	40.68	5	10	11	13	17
Supply Chain Management	15	960	13	64.00	7	12	13	15	15
Business Strategy and the Environment	15	340	9	22.67	2	6	9	11	15

Abbreviations: TP and TC = Total papers and citations; H = h-index, TC/TP = Average citation per paper; ≥50, ≥20, ≥10, ≥5, ≥1 = Number of papers with equal to or more than 50, 20, 10, 5 and 1 citations.

Journal of Business Ethics (JBE) has 43 publications, 22 of which have at least 22 citations. The 43 publications from JBE have received a total of 1907 citations, with an average of 44.35 citations per document. 12 of their publications cross the threshold of 50 citations and 4 among them have more than 100 citations. The article by Maloni and Brown (2006) has received the most citations among the 43 publications from JBE, at 401. Another pioneering work, by Amaeshi et al. (2008), secured thirteenth position in Table 2 with 179 citations. In the year 2018, JBE published the highest number of relevant papers in a calendar year (seven articles). Murphy et al., (2019) is the latest article on CSR in SC published in this journal. More than seventy percent of the articles out of the 43 publications have received at least ten citations. Only two recent articles have not received any citations as yet. From table 4, one may notice that JBE leads in all quantitative and qualitative indexes, except TC/TP. The journal Supply Chain Management leads this category, with an average of 64 citations per document. Now, we will look at the keyword analysis of the leading journals.

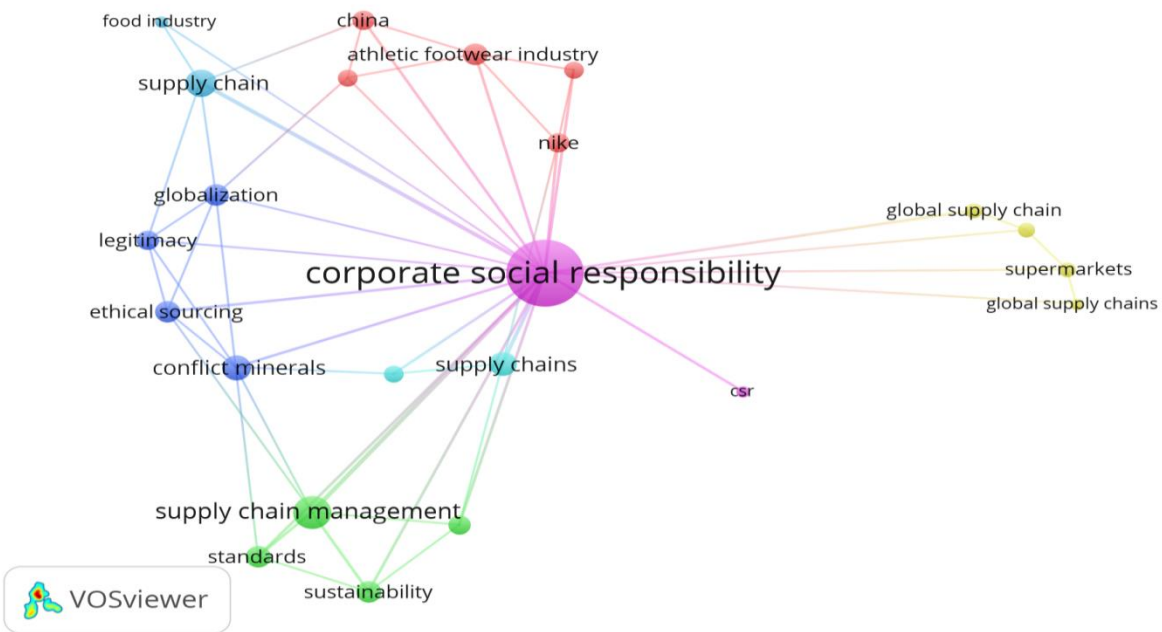


Figure 5. Co-occurrences of Keywords in Journal of Business Ethics

Figure 5 presents the co-occurrences of keywords in JBE. From Figure 5 one may easily identify those topics which are simultaneously researched in CSR and SC. Sustainability, globalization, legitimacy, ethical sourcing, conflict minerals, supermarkets, global supply chain, athletic footwear industry, China and Nike are the correlated keywords which match up with CSR and SC in the 43 publications of JBE. The authors of the top four most-cited articles from JBE used the following keywords: (i) Maloni and Brown (2006): Corporate social responsibility, Food industry, Logistics social responsibility, Purchasing social responsibility, Supply chain; (ii) Amaeshi et al. (2008): Corporate control and corporate group, Firm-supplier relationship, Purchasing ethics, Responsibility, Responsible supply chain management; (iii) Yu (2008): Corporate social responsibility, Environmental and social standards, Legitimacy, Supply chain; and (iv) Mueller et al. (2009): Athletic footwear industry, Corporate codes of conduct, Corporate social responsibility, Labor standards, Reebok, Trade union, Wages. We may note that the above four papers did not only show wide applicability of CSR in different supply chains (food and athletic footwear industry), but also proved a close relationship between CSR and purchasing ethics, environmental and social developments.



The second most prolific source, Journal of Cleaner Production (JCP), has 29 publications on CSR in SC. Publications from JCP have received a total of 1551 citations with a healthy average of 53.48 citations per document. 14 publications from JCP have at least 14 citations. The co-occurrences of keywords in JCP are presented in Figure 6.

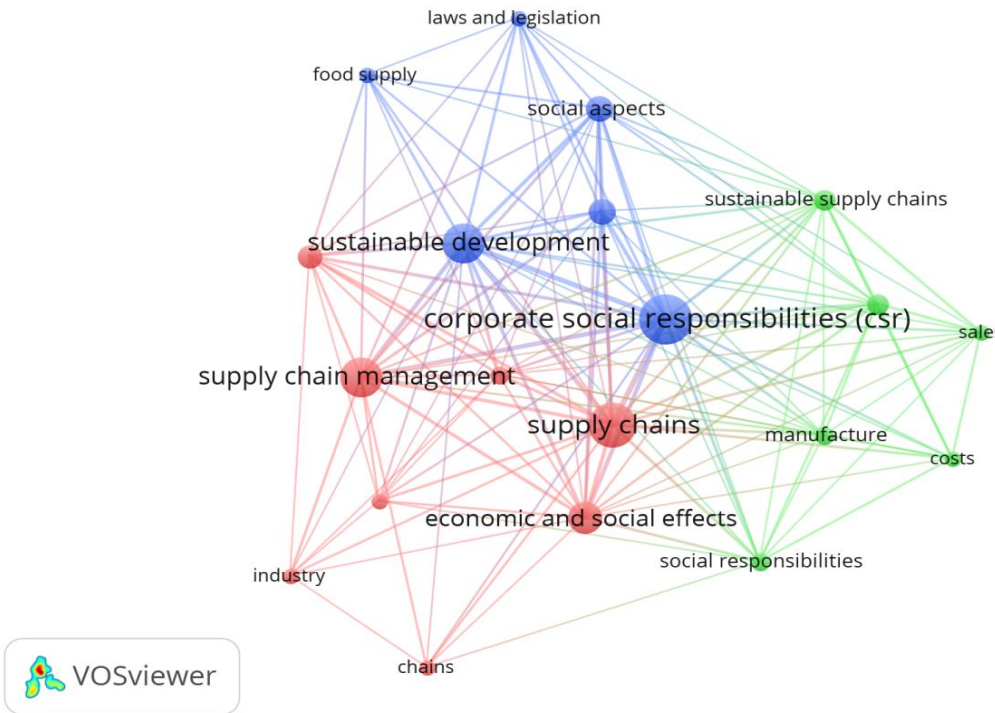


Figure 6. Co-occurrences of Keywords in Journal of Cleaner Production

The article by Hutchins and Sutherland (2008) has received the most citations (397) among the 29 publications from JCP. Another work from this journal, written by K. Govindan, R. Khodaverdi, and A. Jafarian, has received 343 citations and secured fifth position in Table 2 (Govindan et al., 2013). Figure 6 explores some interesting topics which appear simultaneously with CSR and SC. Sustainable development, economic and social effects, law and legislation, food supply, industry, manufacturer, sales and costs are the related keywords concurrent with CSR and SC used in the 29 publications from JCP. The most cited paper, Hutchins and Sutherland (2008), uses the following keywords: Corporate social responsibility; Decision-making; Supply chain; Sustainability. The second most cited paper, Govindan et al. (2013), uses the following keywords: Corporate social responsibility; Environmental management; Fuzzy set theory; Supplier selection; Sustainable supply chain management; TBL; TOPSIS.

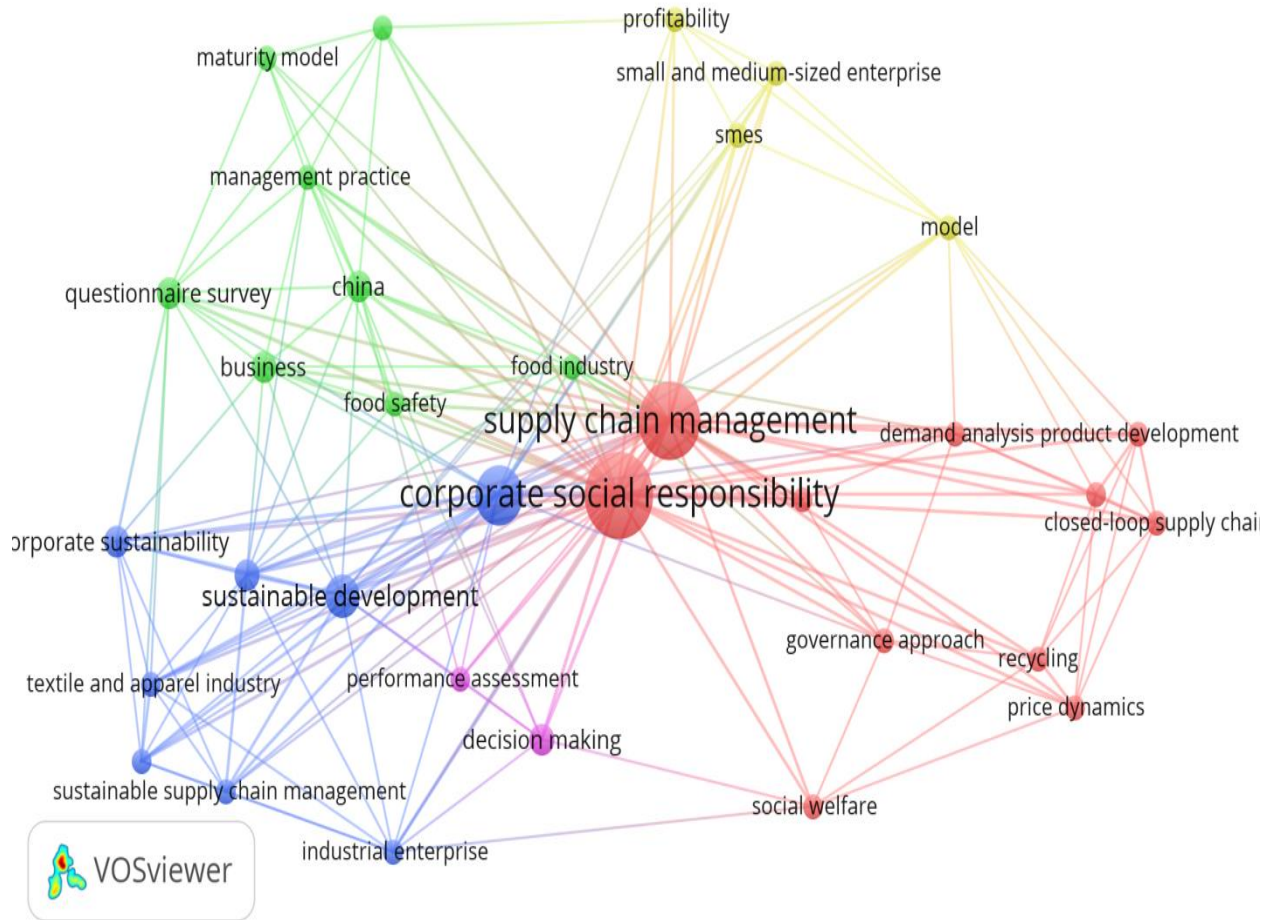


Figure 7. Co-occurrences of Keywords in Sustainability (Switzerland)

The journal Sustainability (Switzerland), is the third most productive journal, with 23 publications on CSR in SC. Recently, this journal has published several articles on these topics. In the year 2018, it published 10 articles, and during the first four months of 2019, it published 4 more articles. Due to its shorter time period (2015-2019), publications from Sustainability (Switzerland) have generally received fewer citations. Figure 7 depicts the co-occurrences of keywords in Sustainability (Switzerland). The most used keywords in the 23 publications of Sustainability (Switzerland) are corporate social responsibility; supply chain management; sustainability; sustainable development; corporate strategy; business; decision making; corporate sustainability; China and food safety. Meanwhile, International Journal of Production Economics (IJPE) has nineteen publications related to CSR in SC. Those 19 publications have a total of 773

citations and a H-index value of 10. The co-occurrences of keywords from those nineteen publications of IJPE are presented in Figure 8.

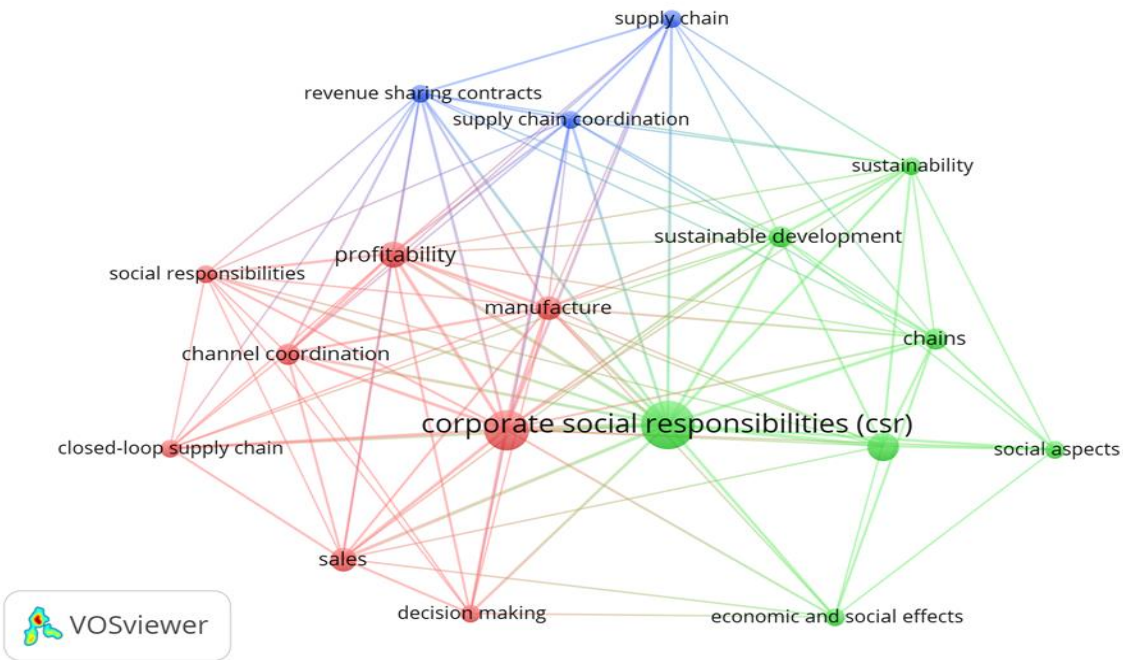


Figure 8. Co-occurrences of Keywords in IJPE

Figure 8 reveals two major clusters; one in red and other in green. In the red cluster, the supply chain is closely related to sales, decision-making, profitability, manufacturer, social responsibilities and channel coordination. On the other hand, the most prominent factor in the green cluster (that is, CSR) mostly co-occurs with the keywords: sustainable development; chain; social aspects; economic and social effects. The article written by R.D. Klassen and A Vereecke (Klassen and Vereecke, 2012) is the most cited article from IJPE, with 191 citations. The keywords used by the authors in this article are corporate social responsibility, innovation, supply chain management, sustainability and triple bottom line.

The journal Supply Chain Management (SCM) has fifteen documents on CSR and supply chains. Documents from SCM have received a total of 960 citations. SCM leads in the citation per paper category with an average of 64 citations per paper. Two articles from SCM have more than one hundred citations each. The article by Gimenez and Tachizawa (2012) has received the most

citations among the fifteen documents published in this journal. Co-occurrences of keywords from SCM are presented in Figure 9.

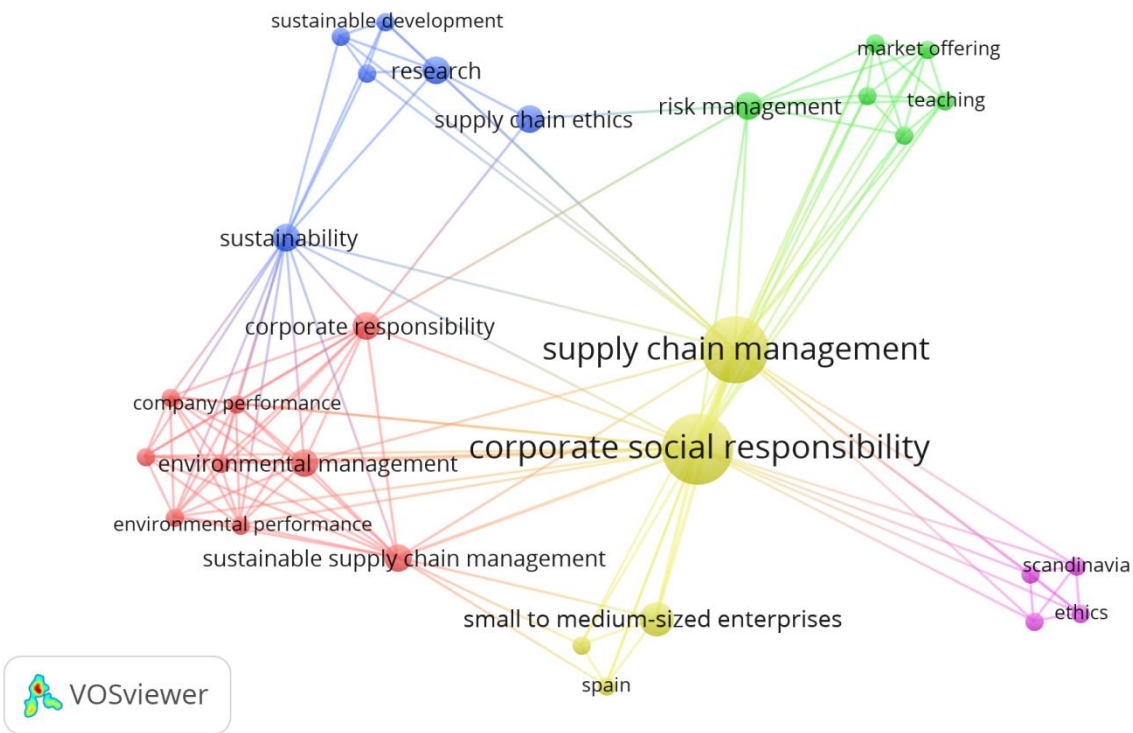


Figure 9. Co-occurrences of Keywords in SCM

Within the two major keywords “Corporate Social Responsibility” and “Supply Chain Management”, documents from SCM used linked keywords such as small and medium-sized enterprises, sustainability, risk management, environmental management, SSCM, supply chain ethics, research and company performance. The review paper by Gimenez and Tachizawa (2012) uses the following keywords: Research; Structured literature review; Supply chain management; Sustainability; Sustainable development.

Another journal, Business Strategy and the Environment (BSE), also has fifteen documents on CSR and supply chain. BSE has a total of 340 citations and two of its documents reached the threshold of fifty citations. The keywords linking those fifteen documents are displayed in Figure 10.

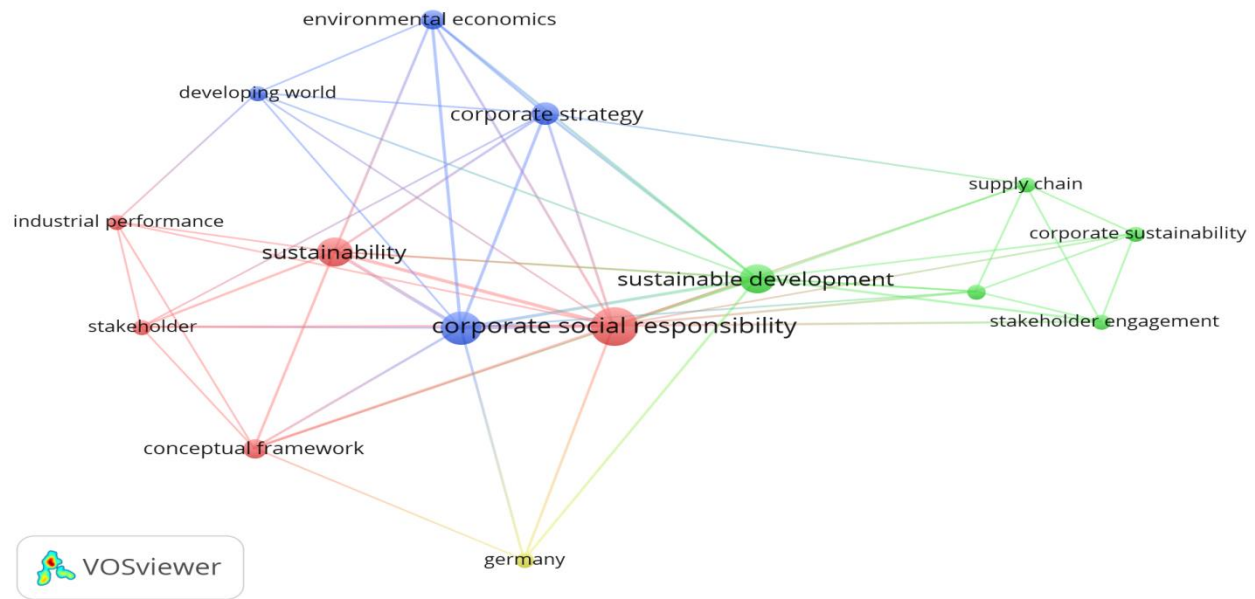


Figure 10. Co-occurrences of Keywords in Business Strategy and the Environment

Figure 10 highlighting the use of the following keywords: corporate social responsibility, sustainable development, sustainability, corporate strategy, environmental economics, developing world, conceptual framework and stakeholder. The article written by Hofmann et al. (2014) is the most cited article from BSE with 91 citations. The next section analyzes the research performance of leading countries in this field.

## 5. Country Analysis

In this section, we present the results of our country-by-country analysis to analyze how research has been carried out in different countries, as shown in Table 5. This will help us to analyze how authors from different countries think about CSR and the supply chain. There is a basic difference between the CSR-related activities of companies from Europe and the United States: in Europe, enterprises are controlled by regulations and acts enforced by governments, while in the USA it is left largely up to companies' goodwill and charity. India follows the European system. If we look at China, we notice that not only does the Chinese government place strict controls and regulations upon companies, but there are also rules and regulations for Chinese people to make sure CSR activities in supply chain management are successful. India is also concentrating on companies' CSR activities, which is a good sign for the near future. For example, big corporate entities like

TCS, IBM and Johnson and Johnson have implemented a code of ethics for their employees and emphasized social responsibility by planting tree saplings [Baughn et al. (2007); Maignan & Ralston (2002)]. Table 5 demonstrates the citation structure of the top ten countries.

**Table 5. Citation structure of leading countries**

Year	TP	TC	H	TC/TP	≥50	≥20	≥10	≥5	≥1
United States	116	5264	33	45.38	25	40	53	71	100
United Kingdom	82	2160	25	26.34	12	37	47	59	74
China	59	579	14	9.81	3	11	15	23	44
Australia	40	559	12	13.98	4	8	17	23	33
India	33	509	15	15.42	1	11	16	21	28
Sweden	33	335	12	10.15	0	7	16	19	25
Canada	32	1003	14	31.34	7	12	15	19	28
Netherlands	31	678	12	21.87	4	10	16	22	27
Germany	24	538	10	22.42	4	8	11	13	18
Italy	24	599	9	24.96	4	7	9	15	22

The United States of America (USA) comfortably leads in all categories in Table 5, as it has 116 publications, 5264 citations, a H-index value of 33 and 45.38 average citations per publication. Fifteen articles from American authors have more than one hundred citations each, and the top seven among them have more than two hundred citations. The United Kingdom (UK) occupies the second position in terms of TP, TC and H-index, with 82 publications giving a total of 2160 citations and twenty-five publications with more than twenty-five citations each. Canada is in the second position in the TC/TP category. The top ten includes five European countries (United Kingdom, Sweden, Netherlands, Germany, and Italy), two Asian countries (China and India), two North American (the USA and Canada) and one from Oceania (Australia). This result proves that research on CSR in the supply chain has already become a hot topic for investigation all over the world. Figure 11 presents the bibliographic couplings between countries. To prepare this figure we have excluded those countries which have fewer than five publications. We may note that, out of 70 countries, 28 meet the threshold of five publications. Figure 11 involves four

clusters (red, green, blue and yellow), 378 links, and a total link strength of 94909. The USA leads the red colored cluster and it is closely coupled with Australia and Italy. The UK leads the green-colored cluster and is closely coupled with other European countries: Sweden, Netherlands, Germany, France, and Spain. Two Asian countries – China and India – lead the blue cluster. Taiwan, Denmark, Iran, and Brazil also show their significant presence in the blue cluster.

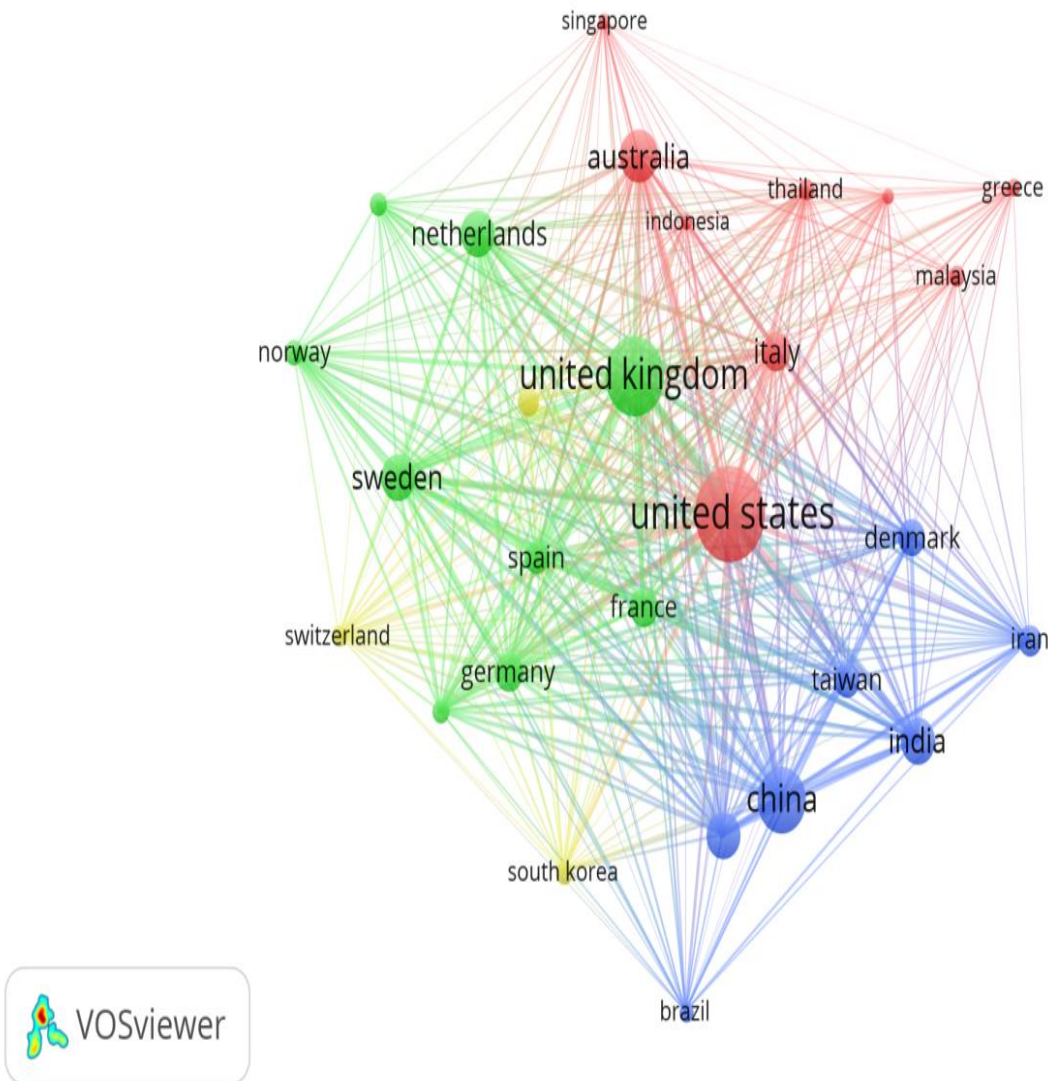


Figure 11. Bibliographic coupling of countries

Next, we will analyze the topics of research covered in the top three countries. Figure 12 presents the co-occurrences of keywords in the 116 publications from the USA. Figure 12

highlights those topics which are most frequently discussed, along with the linked topics used by researchers from the USA. Figure 12 presents five clusters of keywords: Red, Green, Blue, Yellow, and Violet. The top keywords used in the 116 publications from the USA are: corporate social responsibility, supply chain, sustainable development, environment, decision making, risk management and sales.

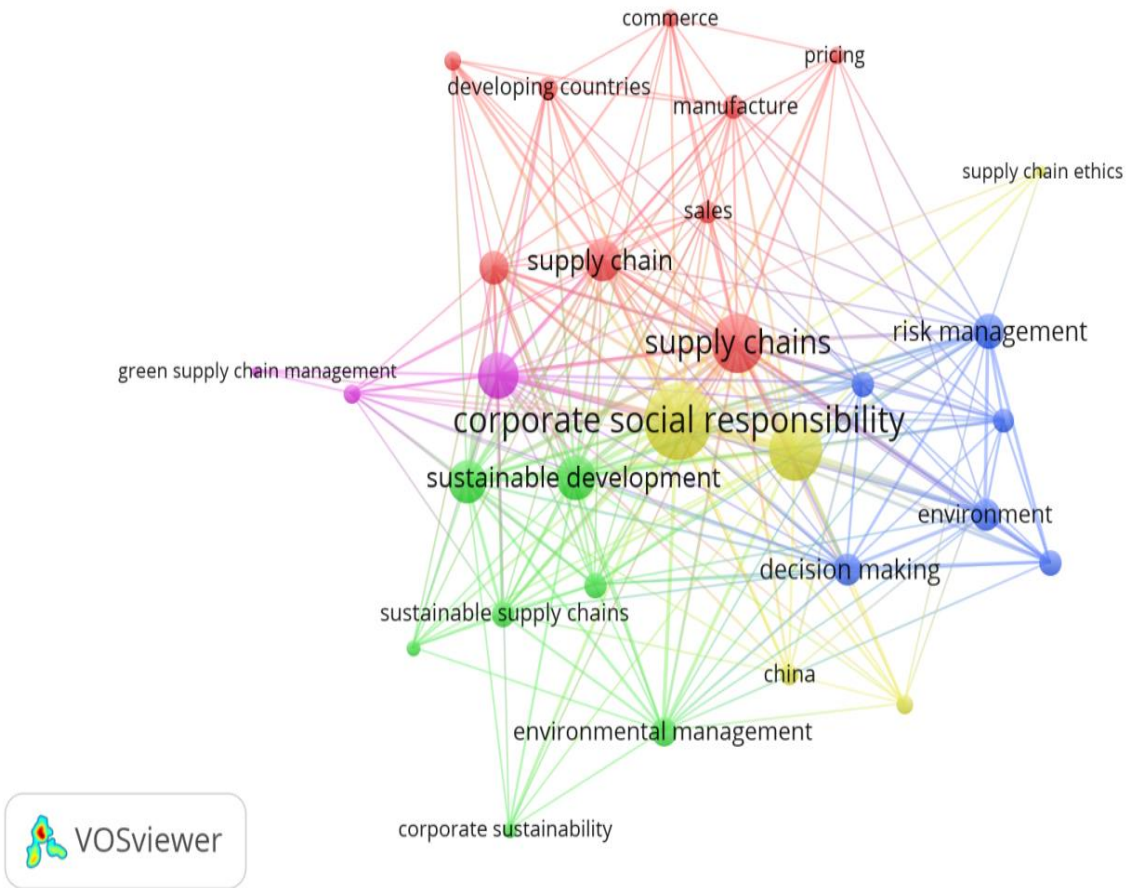


Figure 12. Co-occurrences of Keywords in the USA

Among the 116 publications from the USA, the article written by C.R. Carter and P.L. Easton in 2011 (Carter and Easton, 2011) has the most citations (556), followed by the article by Maloni and Brown (2006), which received a total of 401 citations. Hutchins and Sutherland (2008) has only four less citations than Maloni and Brown (2006). The authors of the top three most influential articles from the USA have developed their research based on the following keywords. Carter and Easton (2011) used the keywords economic performance, economic sustainability,



environmental management, social responsibility and supply chain management. Maloni and Brown (2006) used the keywords corporate social responsibility, food industry, logistics social responsibility, purchasing social responsibility, and supply chain. Hutchins and Sutherland (2008) used the keywords corporate social responsibility, decision-making, supply chain and sustainability.

Next, we will look at the co-occurrence of keywords from the second most productive country. Figure 13 presents those topics which are most frequently discussed, along with linked topics, by researchers from the UK.

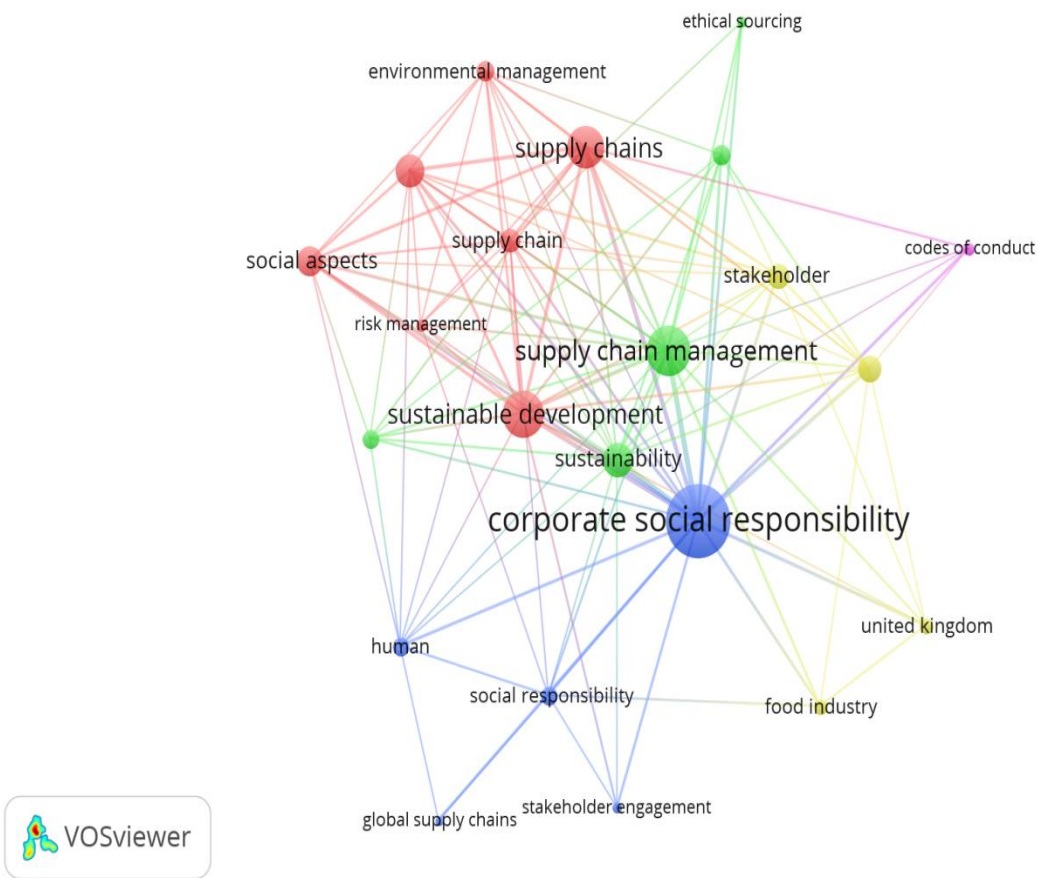


Figure 13. Co-occurrences of Keywords in the UK

The top keywords used in the 82 publications from the UK are: corporate social responsibility, supply chain management, sustainable development, sustainability, supply chains, social aspects, environment management, risk management and stakeholder. Only four articles



of fifty citations, and none of them have crossed the limit of one hundred citations. We may note that all 59 papers from China were published during the present decade; that is, after 2009. The next figure (Figure 15) presents the overall co-occurrences of keywords across all 572 publications.

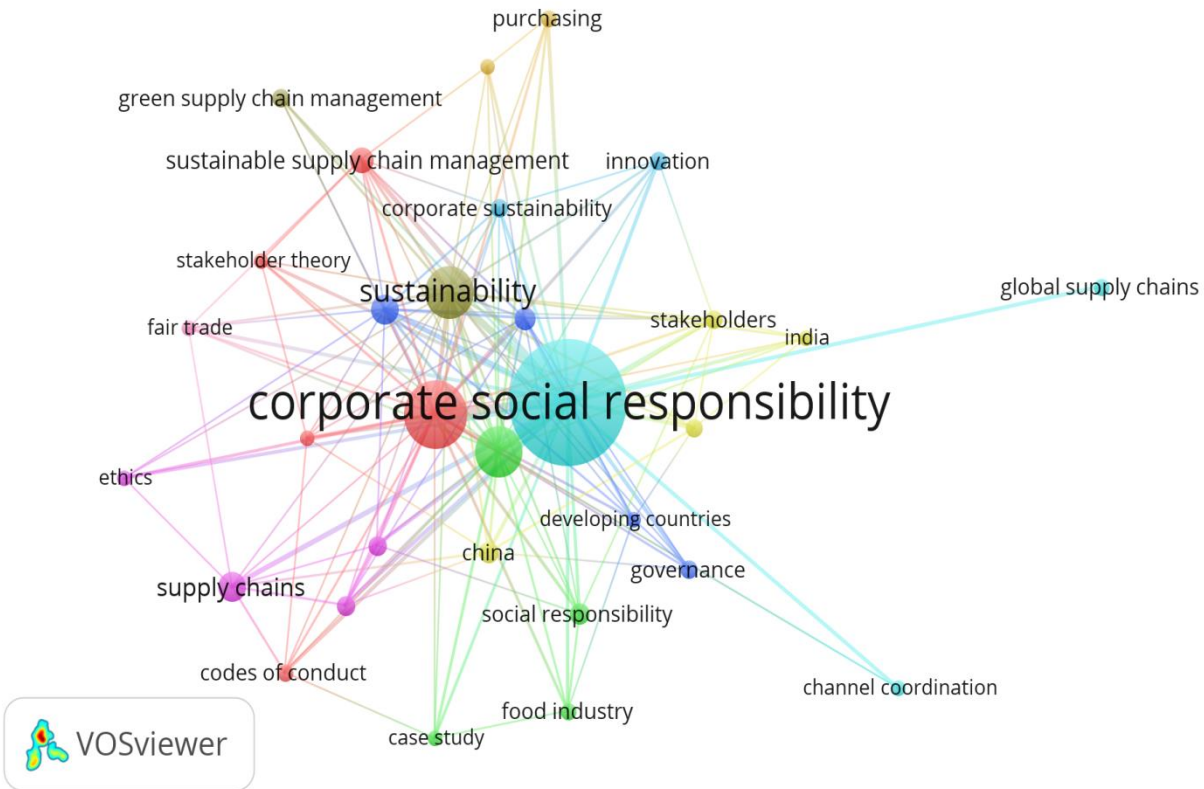


Figure 15. Co-occurrences of Keywords in the all 572 publications.

Other than corporate social responsibility, supply chain management and supply chains, major keywords investigated across the 572 publications are as follows: sustainable development (TLS 290; 76 occurrences)<sup>1</sup>; sustainability (TLS 254; 92 occurrences); economics and social effects (TLS 160; 31 occurrences); decision making (TLS 111; 25 occurrences); corporate strategy (TLS 106; 37 occurrences); social aspects (TLS 104; 23 occurrences); environment management (TLS 98; 29 occurrences); profitability (TLS 89; 22 occurrences); manufacturer (TLS 89; 21 occurrences); stakeholder (TLS 76; 21 occurrences) and finally China (TLS 54; 22 occurrences).

<sup>1</sup> Abbreviations: TLS= Total link strength

## **6. Tertiary Study**

This section studies all 35 review papers found in the SCOPUS database. **CSR describes the commitment of a company towards society in carrying out its business. It can lead to a positive reputation for the company in society and ensures that companies carry out their business in ethical ways. Stakeholder marketing plays a vital role in the creation of responsible consumerism, which helps producers to become socially responsible and also assists both companies and stakeholders to benefit through symbiotic relations (Smith and Williams, 2011).** Classifications of these review papers are presented in Table A (see appendix). The papers are divided into six categories, including: Type of Review, Business Ethics, Sustainability, Collaboration/Correlation, Code of conduct, and Sector.

### **6.1 Types of review**

In this section, the papers are classified according to the type of methodology used, i.e. case study, bibliometric study, literature review, etc.

#### ***6.1.1 Case study***

According to our study, nine papers mainly focus on the case study method. Chiarini and Vagnoni (2017) survey the CSR activities of European manufacturing companies, as per the guidelines implemented by the SA 8000 and ISO 26000 regulations. A case study in the fashion business is conducted by Khurana and Ricchetti (2016). Laudal (2012) elaborate a case study of three electric companies and conclude that EU legislation on electric and electronic equipment (EEE) enhances externality costs. In their paper, Dubbink and Van der Putten (2008) perform an empirical case study in the Netherlands. Lim and Phillips (2008) study the CSR performance of athletic footwear companies such as NIKE, IWC, etc. and their suppliers through the case study methodology. Carter (2005) discuss the social activities of firms, using a survey and structural equation modeling as their methodology.

#### ***6.1.2 Bibliometric study***

Feng et al. (2017) study 628 peer-reviewed articles to develop a systematic study of CSR in SCM. They use a data analysis technique which includes citation analysis, word analysis, etc.

They observe that theoretical research into CSR in SCM has been performed more consistently than practical research.

### ***6.1.3 Literature review and systematic literature review***

Gimenez and Tachizawa (2012) present a SLR highlighting governance structures for the adoption of sustainability among suppliers. An SLR on Sustainable Supply Chain Management (SSCM) is presented by Carter and Easton (2011). Taylor and Vachon (2018) present a literature review on SSCM, based on published papers from the pioneering journal *International Journal of Production Research (IJPR)* and identify the contributions and shortcomings in this field. In their literature review paper, Grob and Benn (2014) describe the applicability of Institutional theory and the Resource-Based View (RBV) of the firm in encouraging increased sustainable procurement. A literature review in the Food Supply Chain (FSC) field, in conjunction with CSR (CNSR) is developed by Hingley et al. (2013). In their systematic literature review of 117 articles published in reputed journals between 1992 and 2012, the authors Lueg and Carvalho e Silva (2013) reveal a new dimension of Basic Score Card (BSC) modifications of industries. They conclude that BSC modification is essential to match the functions of different organizations or industries along with the development of sophistication, which is highly relevant. It is expected by the authors that this review paper will help companies to better implement the strategic, managerial and operative decision to develop successful social activities.

A literature review by Stuart (2011) discusses sustainable corporate brands. The authors build their literature review on the relevant research papers already published in this field. Zutshi et al. (2009) focus on a new dimension by eliminating child labor in the global supply chain. A systematic literature review is adopted to structure this article. Many companies use child as labor, which is a serious inhumane practice. Prieto-Carrón (2008) indicate a new side of CSR for corporations by developing a literature review in this regard. A literature review relating to the sustainable agricultural food supply chain is presented by Smith (2007). The business attitude and trust among stakeholders of the food supply chain play a vital role in increasing sustainability. Based on reports submitted by some of the leading companies in the UK, Jones et al. (2006) create a literature review highlighting the challenges which construction companies are facing. In their review paper, Manning et al. (2006) study the application of ethical values in food supply chain

management. The authors review both qualitative and quantitative methods of assessment, assessing these aspects from an ethical perspective.

## **6.2 Business ethics**

Business ethics related to ethical principles and moral values that may arise in a business environment. In the last few years, the green supply chain has one of the most discussed topics in this area. Researchers are continuously trying to incorporate policies to create a green environment without harming the economy. In order to enhance the greenness and sustainability of the environment, ethical business values along with environmental responsibilities are highly important. Min and Kim (2012), in their article “Green supply chain research: Past, Present, and Future”, reinforce environment-friendly initiatives to develop effective green supply chain strategy after studying the past and present dimensions of such research. Smith and Williams (2011) discuss ‘Ethical Consumerism’, of which conscience is found to be the most important factor. The authors conclude that the goodwill of consumers, along with marketers, may develop Ethical Consumerism, overcoming a potential vicious circle. Amaeshi et al. (2008) reinforce the firm-supplier relationship. They espouse the use of a code of conduct and value orientation throughout the supply chain.

## **6.3 Sustainability**

Every day we are consuming a great deal of natural resources, pushing the Earth towards great danger. Natural resources are in danger of running out. Environmentalists and scientists around the world have fears about the “sustainability” of natural resources, raising the pertinent question of what we are leaving for the next generation. Therefore, emphasis has been placed on the word ‘Sustainability’. The Brundtland Commission describes sustainability as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. According to our study, sustainability in supply chain management may be fall into four types, which include Development, Sustainability Supply Chain Management (SSCM), Procurement and Production. These will next be discussed one by one, and have been categorized concisely in tabular form in Appendix A.

### ***6.3.1 Sustainable development (SD)***

Zemigala (2019) set six question parameters: chronology, discipline, source, center, country and content. These parameters are determined from published papers in leading academic journals during a period of 42 years (1974-2016). Analyzing the answers, the authors summarize that research into sustainable development in management sciences based on chronological items is going to be the most promising field of empirical research. Dutch Utrecht University makes the most contributions in this field; the Journal of Cleaner Production is the most relevant journal; USA and UK are the most prolific regions and other emphasized areas are CSR, SCM, Corporate Sustainable Development (SD), theory of innovation and strategic management. Khurana and Ricchetti (2016) develop an up-to-date overview of the current development of sustainability which will help both scholars and corporations. Donald Schon's reflective practice and learning system have been used to develop this model following interaction with fashion companies along with NGOs. Gimenez and Tachizawa . emphasize governance structures which enable the improvement of sustainability of supplies. Not only suppliers' assessment, but also collaborations in the supply chain are very important to enhance sustainability. Min and Kim (2012) encompass the evolution of efforts in green supply chain research. This paper reveals the future research strategies in this field after synthesizing/analyzing past and current research efforts on green supply chain strategy. Sustainable Corporate Brands is the focus of Stuart (2011). These authors investigate the factors, features and drivers involved in the development of sustainable corporate brands and also mention factors for the implementation of sustainable corporate brands.

### ***6.3.2 Sustainable supply chain management (SSCM)***

SSCM ensures the restoration of the socio-economic value of environmental resources through the reclaiming of waste. The ultimate goal of SSCM is to promote sustainable development for the welfare of society. A review paper on SSCM has been developed by Taylor and Vachon (2018). This article is based on related published papers in the pioneering journal International Journal of Production Research (IJPR), and the authors identify the contributions and shortcomings in this field. Very few papers dealing with the social dimension of SSCM are identified by these authors. The authors propose to introduce the concept of networking capital; i.e., they aim to focus the notion of utilizing assets efficiently. Sacaluga et al. (2011) present a review paper that describes in detail their conception of SSCM. In this matter, they analyze three model papers. It is expected by these authors that their review paper will help companies to better

implement the strategic, managerial and operative decision to develop successful social activities. SSCM plays a vital role in the social and environmental areas. Carter and Easton (2011) present a systematic literature review dealing with SSCM.

#### ***6.3.4 Sustainable procurement***

The applicability of Institutional theory and the Resource-Based View (RBV) of the firm are studied by Grob and Benn (2014). These authors note that these factors encourage the enhancement of sustainable procurement. Three propositions are derived in this regard to explain why sustainable procurement should be adopted. In sustainable agricultural food supply chains, customers, investors and suppliers should all be concerned about consumption, production and procurement of environmentally friendly substances. The trust and business attitude among the stakeholders of the food supply chain are essential to maintaining sustainability. Smith (2007) focus on strengthening co-operation and bonding among manufacturers, retailers, NGOs and farmers to encourage sustainable agricultural practices in food supply chain management. Scott (2005) discuss the CSR policy of an eco-friendly firm. A publishing firm manages its resources from society to run the business. Therefore, CSR activities will enable publishing companies to carry on their business in the long run. In the changing business scenario, companies have to emphasize social responsibility and sustainability along with their profits. Accordingly, it is a great challenge for decision-makers/engineers to adopt the right policies and take the appropriate decisions for investment in maintaining sustainability, performing CSR activities and keeping in mind the company's profit (Wood 2005).

#### ***6.3.5 Sustainable production***

To survey the CSR activities of corporations, Chiarini and Vagnoni (2017) submit eight hypotheses that are extracted from a detailed study of the application pattern of CSR activities in European manufacturing companies. They use Cramer's V test to ratify their results, and conclude that SA 8000 has a greater influence than the ISO 26000 standard. After studying a large number of articles on CSR in SCM, Feng et al. (2017) suggest that in the near future, practical and modeling analysis on sustainable development to improve social and economic efforts will become apparent.



## **6.4 Sector**

In the current modern economy, it is very important for businesses to execute CSR in their sectors. Researchers are now continually attempting to focus on how manufacturers and suppliers can increase their social responsibility in different sectors of practical fields. The effectiveness of CSR in SCM can be achieved through the manifestation of its application in real scenarios. Khurana and Ricchetti (2016) discuss sustainable SCM in the fashion industry over two decades. Lim and Phillips (2008) apply CSR activities in the field of athletic footwear with companies such as NIKE, IWC, etc. Following an empirical study on construction companies and CSR, Jones et al. (2006) reinforce the implementation of six parameters of CSR, namely: environmental relations, health and human resources, supply chain management, customers, communities and governance and ethics. These authors also observe that companies commonly show low participation in enhancing CSR activities, ignoring their commitments. A food supply chain model is presented by Hingley et al. (2013). Laudal (2012) try to find a correlation between the rise of externality costs and CSR. For this purpose, they include three electric and electronic equipment (EEE) companies from a global perspective. A survey on European manufacturing companies is conducted by Chiarini and Vagnoni (2017). They provide a questionnaire to the managers of 326 European manufacturing companies, based on eight hypotheses extracted from their detailed study of the application pattern of CSR management systems. They use Cramer's V test to ratify their results, and conclude that SA 8000 has a greater influence than the ISO 26000 standard. Smith (2007) focus on the sustainable agricultural food supply chain, emphasizing active cooperation among members within the supply chain, a fair business attitude from suppliers, trust of consumers, and green practices of farmers, all of which play a vital role in maintaining food supplies while retaining sustainability. Manning et al. (2006) explore the ethical values employed in the field of the food supply chain by means of qualitative and quantitative assessment.

## **6.5 Collaborative study/Collaboration**

In SCM, coordination among members is very important. Good relations and smooth understanding from the end-user to producers can enhance the effectiveness of the supply chain as well as accelerating CSR activities towards sustainable development. Therefore, corporations have paid attention to encouraging strong bonding within the chain to achieve the desired level of success. Lim and Phillips (2008) suggest adopting collaborative methods among the of supply

chains and a cooperative attitude in leading firms towards suppliers by providing security of orders, incentives, encouragement, etc., leaving behind the arms-length market model which specifies no relationship among the partners of a supply chain, in order to ensure that the CSR activities of firms will be successful. Dubbink and Van der Putten (2008) point out that in the Netherlands, competitiveness of the market as well as activities for the non-economic value of companies, such as CSR, have been encouraged. They also attempt to correlate CSR and competitive regulations in the Netherlands. Gimenez and Tachizawa (2012) infer that not only the supplier's assessment but also collaborations in the supply chain are very important to enhance sustainability. Correlations between externality costs and corporate social responsibility (CSR), achieved by applying a market-centric approach to CSR, are researched by Laudal (2012). Sacaluga et al. (2011) develop a literature review that highlights the relationship between CSR and SCM. Carter (2005) examine the mediation between social responsibility and firm performance, along with the integration of organizational learning and supply chain management.

## **6.6 Code of Conduct**

CSR in SCM has now become subject to global and local regulations. As a result, different kinds of 'codes of conduct' have been introduced for corporations by different countries, according to their structure. Companies must be conscious and cautious about the safety of food, child labor, environmental sustainability, etc., along with their natural desire to increase their profits. Therefore, 'codes of conduct' are becoming a popular business concept as well as an important issue for companies in the present economy. In their paper, Amaeshi et al. (2008) stress codes of conduct and value reorientation along with certain other issues. Prieto-Carron (2008) explores the development of voluntary corporate codes of conduct for the improvement of female workers' conditions. In the modern socio-economic scenario for corporate sectors, it is urgent to frame business ethics along with codes of conduct for the improvement of the status of women employees. After a detailed study, Welford and Frost (2006) show that flawless implementation of codes of conduct is very difficult to execute due to the existence of many obstacles. They also conclude that a bigger company might execute their code of conduct more effectively than a smaller company. Ethical values in food supply chain management have been discussed by Manning et al. (2006). They reinforce the importance of trust among consumers, consciousness of suppliers and manufacturers, along with the rational decisions of policymakers. Zutshi et al. (2009)

stress the importance of sustainability for children by preserving their rights and providing opportunities to adopt policies for the welfare of future generations.

## 7. Conclusions

The present study reveals several findings. The relevance of the research into CSR in the supply chain is increasing consistently. The year 2018 shows the best annual performance yet, with 81 publications. We may also note that 18 articles were published during the first four months of 2019 alone. The 572 published articles identified on CSR in SCM received a total of 14,393 citations, at a healthy average of more than twenty-five citations per document. The paper entitled “Blackett memorial lecture humanitarian aid logistics: Supply chain management in high gear”, written by L.N. Van Wassenhove, leads the table of the most influential papers, with more than five hundred citations. Prof. J.M. Cruz, Wageningen University and Research Centre, Journal of Business Ethics, and the United States are the leading author, institution, journal, and country respectively. Based on the identification of the most-cited journals and articles on the topics of CSR and SCM and the analysis of keywords; it is possible to frame the research within these topics, as follows:

- ✓ The Journal of Business Ethics and the International Journal of Production Economics have published more articles in the field of CSR than on CSR and SCM.
- ✓ Supply Chain Management: An International Journal and Journal of Cleaner Production have published more articles focusing on CSR and SCM jointly. In particular, Journal of Cleaner Production has addressed the topics ‘sustainable development’ and ‘economic and social effects’, whereas SCM: IJ has published several articles on the ‘sustainable supply chain management’ theme.
- ✓ The articles most frequently cited in the journals mentioned above are: Maloni and Brown (2006), Hutchins and Sutherland (2008), Andersen and Larsen (2009) and Klassen and Vereecke (2012).
- ✓ The most cited articles are based on qualitative and theoretical research methods, aiming to propose frameworks.
- ✓ The themes of the most frequently cited articles concern the evaluation of social issues in supply chains by means of metrics and indicators, as well as the proposal of frameworks to guide CSR practices in supply chains.

As a result of framing the publication profile within the topics of CSR and SCM, it is possible to provide some guidance on future research directions, as follows:

- ✓ To test the effectiveness of the frameworks that have been proposed in order to implement CSR across all tiers of supply chains.
- ✓ To confirm a measurement model of social metrics and indicators to identify and mitigate social risks in supply chains.
- ✓ Taking into account the recent declaration of Business Roundtable, researchers should make efforts to support firms to move towards the new commitments to stakeholders, such as fostering diversity and inclusion, dignity and respect for employees and dealing fairly and ethically with suppliers.

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## Appendices

### Appendix A:

**Table A: Classification of review papers**

Sl no	Authors	Year	Type of Review				Sustainability			Collaboration/ Correlation	Code of conduct	Ethical values/ Business ethics	Sector	Review topic
			Case Study/survey	Bibliometric study	Systematic Literature Review	Literature Review	Development	SSCM	Procurement					
1	Zemigala M.	2019	✓			✓							Tendencies in research on sustainable development in management sciences	
2	Taylor K.M., Vachon S.	2018				✓	✓						Empirical research on sustainable supply chains: IJPR's contribution and research avenues	
3	Feng Y., Zhu Q., Lai K.-H.	2017	✓						✓		✓		Corporate social responsibility for supply chain management: A literature review and bibliometric analysis	

4	Chiarini A., Vagnoni E.	2017				√				√					Differences in implementing corporate social responsibility through SA8000 and ISO 26000 standards: research from European manufacturing
5	Khurana K., Ricchetti M.	2016	√					√							Two decades of sustainable supply chain management in the fashion business, an appraisal
6	Grob S., Benn S.	2014				√			√						Conceptualising the adoption of sustainable procurement: an institutional theory perspective
7	Hingley M., Lindgreen A., Reast J., Manning L.	2013				√									Corporate and consumer social responsibility in the food supply chain
8	Lueg R., E'Silva A.L.C	2013				√									When one size does not fit all: a literature review on the modifications of the balanced scorecard
9	<a href="https://doi.org/10.108/02580541211278581">https://doi.org/10.108/02580541211278581</a>	2012	√										√		Good deeds tops for bottom line: How social responsibility can benefit companies
10	Gimenez C., Tachizawa E.M.	2012				√	√						√		Extending sustainability to suppliers: A systematic literature review
11	Laudal T	2012	√											Electric	Rising externality costs and corporate social responsibility case: EU legislation on electric and electronic equipment
12	<a href="https://doi.org/10.108/02580541211234778">https://doi.org/10.108/02580541211234778</a>	2012				√							√		Doing good not just for brownie points: Business holds the key for creating a fairer world

13	Min H., Kim I.	2012				√						√		Green supply chain research: Past, present, and future
14	Sacaluga A.M., Arca J.G., Prado J.C.P., González A.J.F., Benavides J.A.C.	2011				√	√							A model for Corporate Social Responsibility adoption in Supply Chain Management
15	Smith N.C., Williams E.	2011							√			√		Responsible consumers and stakeholder marketing: Building a virtuous circle of social responsibility
16	Stuart H.J.	2011				√	√			√				An identity-based approach to the sustainable corporate brand
17	<a href="https://doi.org/10.1108/02580541111115456">https://doi.org/10.1108/0258054111115456</a>	2011				√	√							Supply chain management: A new narrative: How innovation creates, improves and adds value to society
18	Carter C.R., Easton P.L.	2011			√		√			√				Sustainable supply chain management: Evolution and future directions
19	Mares R.	2010	√							√		√		The limits of supply chain responsibility: A critical analysis of corporate responsibility instruments
20	Young S.B., Fonseca A., Dias G	2010				√								Principles for responsible metal supply to electronics companies.
21	Zutshi A., Creed A., Sohal A.	2009				√								Child labour and the supply chain: Profitability or (mis)management

22	Dubbink W., Van Der Putten F.P.	2008	√								√					Is competition law an impediment to CSR?
23	Prieto-Carrón M.	2008				√						√	√			Women workers, industrialization, global supply chains and corporate codes of conduct
24	Amaeshi K.M., Osuji O.K., Nnodim P	2008									√	√	√			Corporate social responsibility in supply chains of global brands: A boundaryless responsibility? Clarifications, exceptions and implications
25	Lim S.-J., Phillips J	2008	√								√	√		Footwear Nike		Embedding CSR values: The global footwear industry's evolving governance structure
26	Smith B.G.	2008				√		√	√		√			Food SCM		Developing sustainable food supply chains
27	Jones P., Comfort D., Hillier D.	2006				√							√	Construction		Corporate Social Responsibility and the UK construction industry
28	Welford R., Frost S.	2006	√			√						√				Corporate social responsibility in Asian supply chains
29	Peattie K	2006					√				√			Food (Chicken)		Corporate social responsibility and the food industry

30	Manning L., Baines R.N., Chadd S.A	2006				√						√	√	Food SCM	Ethical modelling of the food supply chain
31	Scott A.	2005							√					Publishing Industry	Media getting to grips with CSR
32	Frame B	2005				√	√								Corporate social responsibility: A challenge for the donor community
33	Woods I	2005					√								Investors look for corporate social responsibility
34	Carter C.R.	2005	√										√	Firm House	Purchasing social responsibility and firm performance: The key mediating roles of organizational learning and supplier performance
35	Welford R.	2003					√								Beyond systems: A vision for corporate environmental management for the future