Foundation of Corporate Social Responsibility and Innovation for Achieving Competitive Advantage

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ARTICLE DETAILS	ABSTRACT
History *Revised format:* *May 2023* *Available Online:* *June 2023* **Keywords** *Corporate social responsibility, bibliometric analysis, frugal innovation, competitive advantage*	The modern business environment requires organizations to constantly look for ways to gain a competitive advantage. This study bibliometrically describes and depicts the knowledge about corporate social responsibility and innovations as a source of competitive advantage. We have extracted the 428 articles from WoS database during 2009 to 2023. This study applied a two stage bibliometric approach to analyze the sampled articles. In the first stage, the selection of the keywords: "corporate social responsibility" OR "frugal innovation" OR "disruptive innovation" AND "competitive advantage" being used in the search bar of WoS database. In the second stage, VOSviewer software was used on the data file extracted from the WoS database for bibliometric analysis techniques. The findings enabled us to identify how different regions of the globe that have contributed most significantly to the expansion of this field of knowledge as well as the most significant authors, articles and journals. Current study has some limitations like documents were extracted from only one database e.g. WoS and this study ignored the other sources like Scopus and Google scholar. The findings have implications for research scholars, practitioners and policy makers for in-depth knowledge of the current study indicators. This research further provides future trends in the development of CSR knowledge. The originality of the paper contributes to the knowledge of bibliometric approach to disseminate trends in CSR as most relevant source of competitive advantage from the WoS database.

Introduction

Corporate social responsibility (CSR) is an essential concept in contemporary business, reflecting the increasing awareness of companies of their social and environmental responsibilities (Abbas & Dogan, 2022). The utmost goal of every organization is to increase customer trust and gain competitive edge (Hang et al, 2022). Companies are introducing new research directions that combine CSR and innovation in an effort to sustain their competitive position in global economy (Nyuur et al., 2019). As a result, there has been a significant increase in the literature on CSR. The reason is that the innovation is not just focused by the progress of new knowledge and skills, but

also by the increasing worlds' emphasis on CSR issues. Companies must now take into account the social and environmental impacts of their operations, foster employee creativity, work with suppliers, customers, and other partners to develop novel products and services that integrate CSR, innovation, and competitive advantage in order to succeed and foster innovation. Reputation and performance of firms is improved by taking various measures to cater customers' consciousness, environment, and market competition (Lewin et al., 2020). As a result of their ability to provide value for their commercial competitiveness while also having a beneficial influence on society and the environment, firms must integrate CSR and innovation if they want to succeed in the contemporary worldwide economy. Business success depends heavily on innovation because it forces organizations to customize their goods and services in novel ways that provide them a distinct advantage over rivals. There has been upward interest in the connotation among CSR, innovation, and competitive advantage. However, research on the relationship among these three concepts is still needed. This paper aims to conduct a bibliometric analysis of the literature on CSR, innovation, and competitive advantage to find out new trends, gaps, and future directions and to provide a comprehensive summary of the current research on the incorporation of CSR, innovation and competitive advantage. The paper will also create a visual map to present an overall pattern of research in this field, helping researchers to understand the current development trend, and the predicted future trail. To achieve this goal, the paper addressed the following research questions (RQs):

  i.   What are the publications by year in CSR, innovation and competitive advantage?
  ii. What are the most frequently cited articles, frequently occurred keywords, top authors, top countries and collaborations in CSR, innovation and competitive advantage?
  iii. What are the implications and future directions for CSR, innovation and competitive advantage?

Methods
Current study has performed bibliometric techniques of the extant literature on CSR, innovation, and competitive advantage extracted using the WoS database. The reasons to use bibliometric analysis are twofold; first, a large amount of data over a period of time can be analyzed with bibliometric analysis and it uses the mathematical, statistical and graphical tools (Song & Wang, 2020). Second, it also offers novel research ideas to researchers working on core literature around the world (Sedita et al., 2020).

Data Collection
For this study the researchers extracted the articles which were published in Web of Science database between 2009 and 2023 that included the terms "corporate social responsibility," "disruptive innovation,", "frugal innovation," and "competitive advantage" in the title as keywords. Scientific papers were collected and analyzed from WoS publications which is most acceptable database (González-Serrano et al., 2020). WoS database has a significant number of journals and publications which fulfill the requirements of peer review (Vázquez-Ingelmo et al., 2019).

Figure 1 depicts the logical order of gathering the data from WoS database. First, the original published papers were included in the field of management. Second, Books, editorials, conference proceedings papers, and book chapters and Non-English articles were eliminated (Hartling et al., 2017; Lee et al., 2019). Finally, 428 articles based in WOS were included for bibliometric analysis.
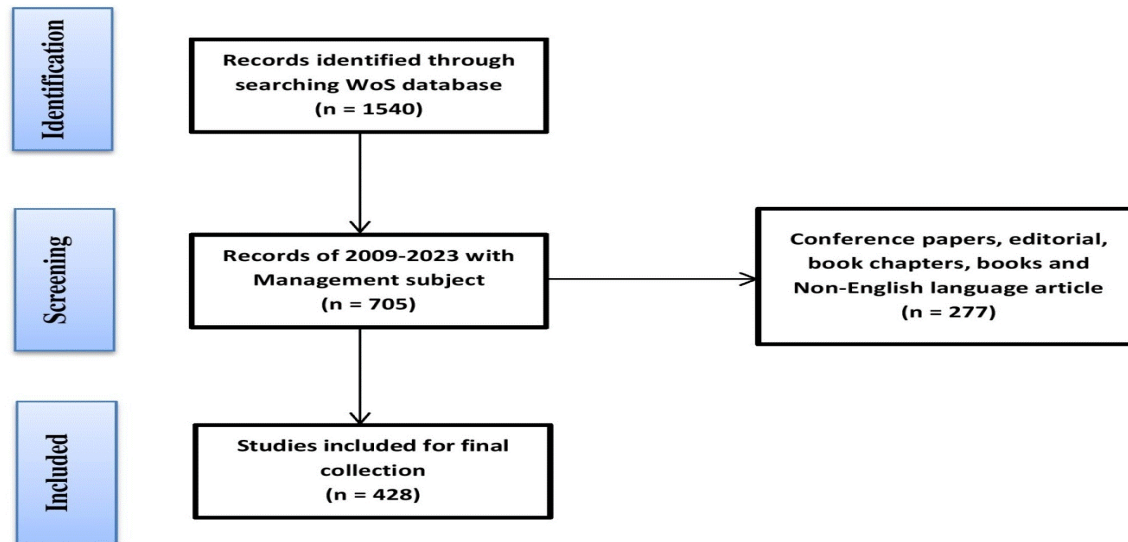
Figure 1: The flow chart of data selection

Bibliometric Analysis

Bibliometric analysis methods are categorized in various ways (Aria & Cuccurullo, 2017; Donthu et al., 2021; Durieux & Gevenois, 2010; Zupic & Čater, 2015). By applying bibliometric analysis method, VOSviewer software and R package were used on the data file extracted from the WoS database for analysis of co-citation, co-occurrence of keywords, citation, co-authorship by country and bibliographic coupling.

Results

The results of the bibliographic analysis reveal several important developments in the CSR, innovation and competitive advantage literature. First, there is growing interest in the link between CSR and innovation. Numerous studies have found that CSR can foster innovation by presenting fresh ideas, resources and perspectives. Second, there is a direct link between innovation and competitive advantage. Several studies highlight the role innovation plays in building lasting competitive advantage. Third, further research is needed to understand the complex relationship between CSR, innovation and competitive advantage, especially in the context of emerging markets and small and medium enterprises (SMEs).

The analysis also identified numerous gaps in the literature. For example, currently there is a lack of understanding of how CSR can support disruptive innovations that could transform industries and open up new markets. Similarly, more research is needed to understand the precise ways in which CSR fosters innovation and creates competitive advantage, including stakeholder engagement, knowledge sharing and networking.

Year base Publications

In this paper, publication patterns from 2009 to 2023 were thoroughly examined. The publishing trend for publications on CSR, innovation, and competitive advantage from 2009 to 2023 is depicted in Figure 2. Only 51 out of 428 articles, or around 11.92%, were published between 2009 and 2013; the number of publications began to clearly increase after 2013. This increasing trend is due to ISO 26000, which offers guidelines to organizations regarding accountability for the effects of their actions on society and the environment. The increasing trend suggests that these subjects are being studied academically, especially in recent years. Moreover, 88% of papers (377) were available in the last decade 2014-2023 whereas 54% of papers (231) were available in the last five years 2019-2023.
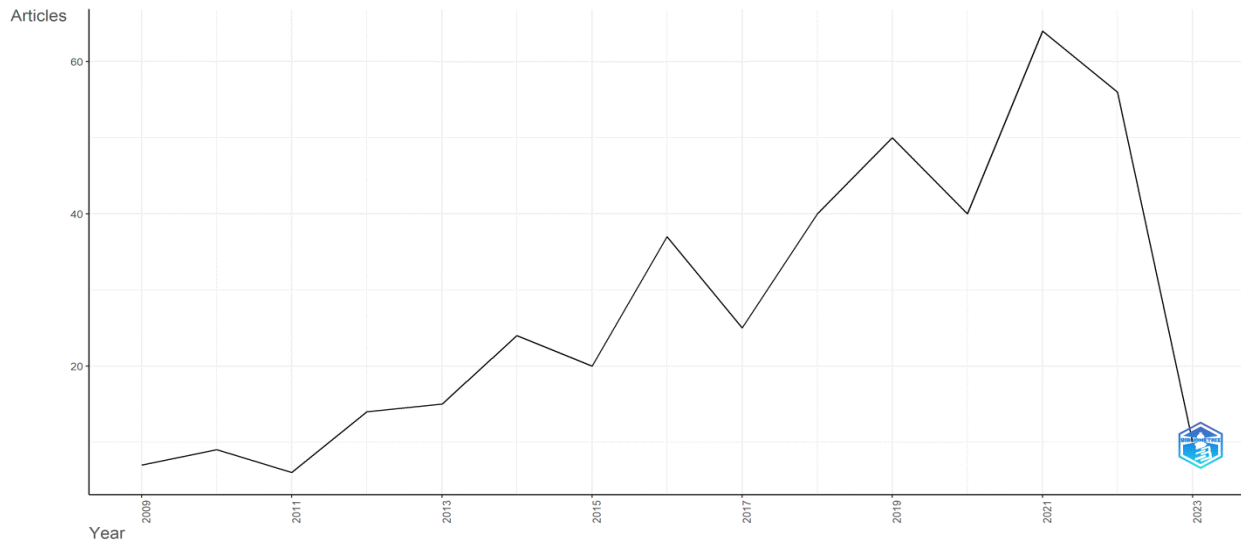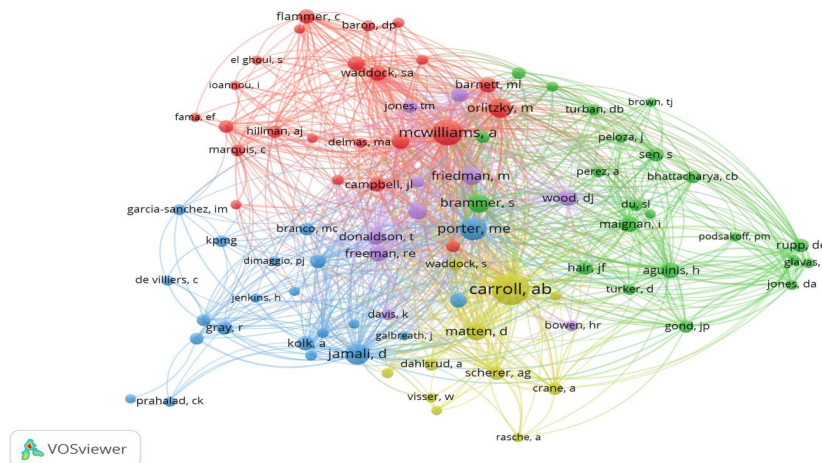
Co-Citation Analysis

A bibliometric technique that identifies the most frequently cited authors in a particular field of study is co-citation analysis (Pilkington et al, 2006). Table 1 reports the top 10 co-cited authors in the literature on CSR, innovation, and competitive advantage, based on the WoS database. Results show that Carroll, AB is the most co-cited author with 291 citations and 3801 total link strength during the sampled period.

Table 1: Top 10 Co-Cited Authors

Ranks	Keyword	Citations	Total link strength
1	Carroll, AB	291	3801
2	McWilliams, A	195	3008
3	Porter, ME	156	2186
4	Jamali, D	131	1858
5	Orlitzky, M	109	1915
6	Brammer, S	100	1744
7	Matten, D	93	1654
8	Friedman, M	84	1309
9	Aguinis, H	78	1463
10	Maignan, I	75	1112

Source: WoS

Figure 3: Co-citation analysis

Figure 3 shows a co-citation network map that visualizes the relationships between the top 10 authors. Each author is represented by a node, and the thickness of the line connecting the nodes indicates the strength of the co-citation analysis. This network map lists groups of authors who are often cited together, showing that researchers have significant contributions to the CSR, innovation, and competitive advantage literature. The current study may also indicate that some authors are well-known within the network, meaning they are frequently cited with many others and could have a significant impact on the field. Overall, co-citation analysis provides valuable insight into the subject's intellectual structure and the major authors who contributed to its development. It helps researchers identify key issues, trends, and research gaps to guide research directions for future studies.

Co-Occurrence Analysis

Co-occurrence analysis depicts visual map that can be used to analyze the frequency of occurrence of keywords in the literature (Jalal, 2019). Table 2 shows the top 10 keywords that are most frequently used in the literature on CSR, innovation, and sustainability, etc. based on the WoS database. Most frequent keyword is corporate social responsibility with 234 frequencies and 178 total link strength.

Table 2: Top 10 frequently occurred keywords

Ranks	Keyword	Frequency	Total link strength
1	Corporate social responsibility	234	178
2	Sustainability	23	35
3	Sustainable development	17	22
4	Corporate governance	14	21
5	Stakeholder theory	14	22
6	Frugal innovation	12	6
7	Social responsibility	12	11
8	Stakeholder engagement	11	19
9	Financial performance	10	15
10	Corporate reputation	8	13

Source: WoS
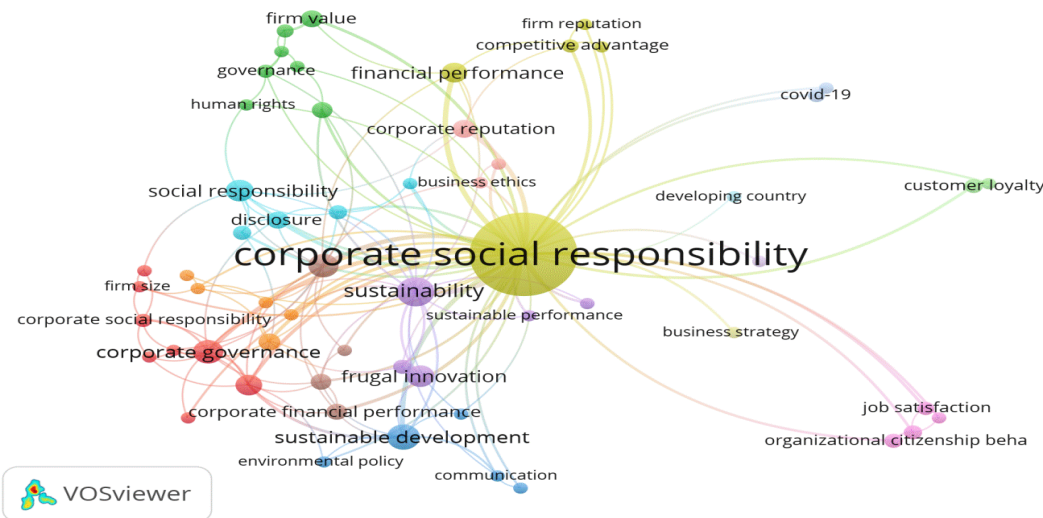
Figure 4: Occurrence of keywords

Figure 4 depicts a co-occurrence network map that visualizes the relationships between the mostly occurred keywords. Each keyword is represented by a node, and the thickness of the line connecting the nodes indicates the strength of the co-occurrence analysis. A cluster of keywords often used together indicates that they are closely related concepts in the CSR, innovation, and competitive advantage literature. Certain keywords are the center of the network. This means they often appear alongside many other keywords and may be of particular importance to the subject. Co-occurrence network maps help researchers visually explore and analyze relationships between keywords in the literature, enabling a deeper understanding of intellectual patterns in the field.
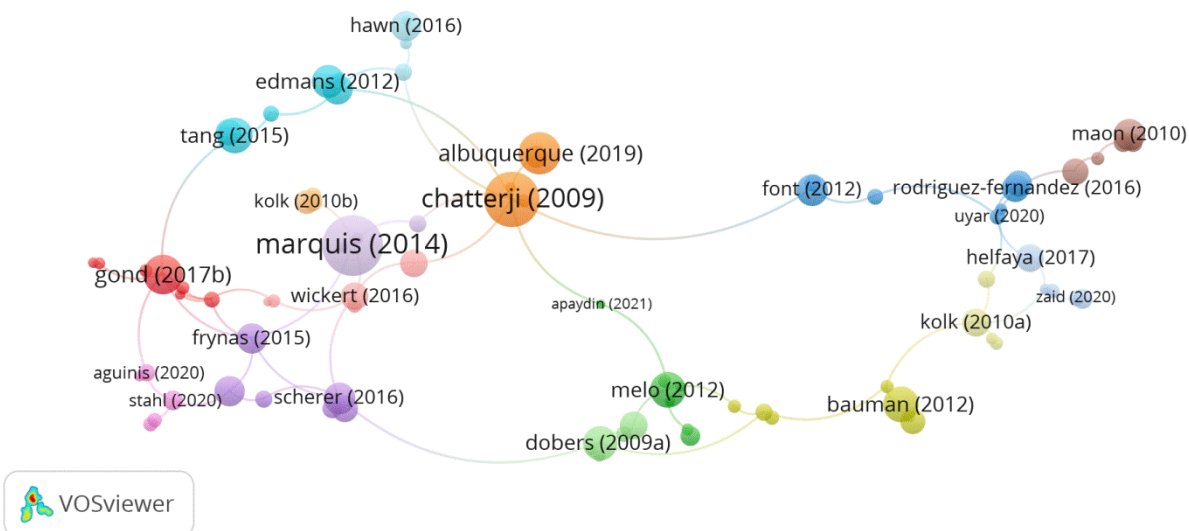
Citation Analysis

The most highly cited documents are identified in the literature through citation analysis (Alshater et al., 2022). Table 3 shows the top 10 most highly cited documents in the literature on CSR, innovation, and competitive advantage, based on the WoS database. Marquis (2014) explores the role of cultural and institutional factors in modeling corporate social responsibility, while Chatterji (2009) identifies links between environmental and financial performance. Other frequently cited documents highlight areas such as stakeholder engagement (Gond, 2017), frugal innovation (Melo, 2012), and multinational corporate social responsibility (Maon, 2010).

Table 3: Top 10 cited documents

Ranks	Keyword	Citations	Total link strength
1	Marquis (2014)	714	6
2	Chatterji (2009)	583	9
3	Albuquerque (2019)	341	1
4	Gond (2017b)	305	8
5	Tang (2015)	255	3
6	Melo (2012)	255	7
7	Bauman (2012)	246	2
8	Dobers (2009a)	226	5
9	Edmans (2012)	204	1
10	Maon (2010)	192	1

Source: WoS

Figure 5: Citation analysis

Figure 5 presents the content of the most cited literature to identify key themes and literature contributions on CSR, innovation and competitive advantage. Overall, citation analysis provides valuable insight into the most influential and impactful documents in the literature on a particular topic. This helps researchers identify the major themes, theories, and contributions that have shaped the field, and can guide future research directions. By analyzing the content of frequently cited documents, researchers gain a deeper understanding of the scientific structure, key debates, and existing controversies in the field.

Co-authorship by Country Analysis
The patterns of collaboration among researchers can be analyzed by using co-authorship technique (Kalhor et al, 2022). Table 4 shows the top 10 countries for the number of co-authored publications on CSR, innovation and competitive advantage, based on the WoS database. Looking at the top 10 countries, results show that the majority of co-authored documents were produced by UK researchers, followed by Spain, the US and China.

Table 4: Top 10 co-authorship by countries

| Ranks	Keyword	Documents	Total link strength
1	United Kingdom	83	91
2	Spain	50	35
3	USA	46	44
4	Peoples of China	40	39
5	Netherlands	31	34
6	Australia	26	24
7	France	25	36
8	Italy	24	21
9	Germany	21	20
10	Brazil	15	10

Source: WoS
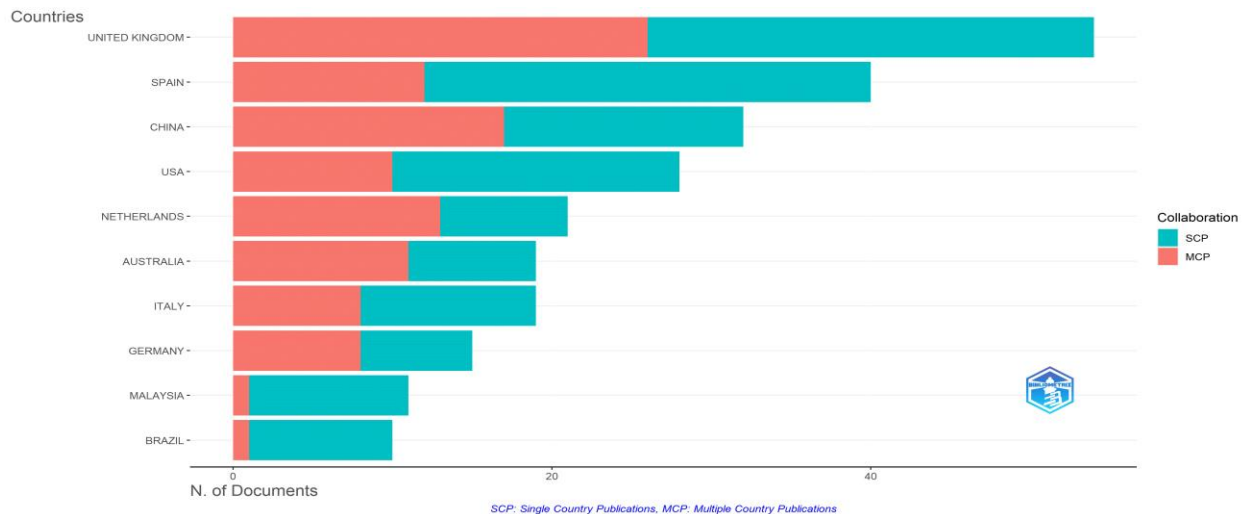
Figure 6: Top 10 country collaborations index

Figure 6 shows that countries are particularly dynamic in research cooperation related to CSR, innovation and competitive advantage. It is noteworthy that all of the top four countries are geographically diverse, suggesting that international collaboration is a major driver of research in this area. Furthermore, the inclusion of countries such as the Netherlands, Australia and Italy in

the top 10 suggests that research on CSR, innovation and competitive advantage is a truly global effort with contributions from various countries and regions.
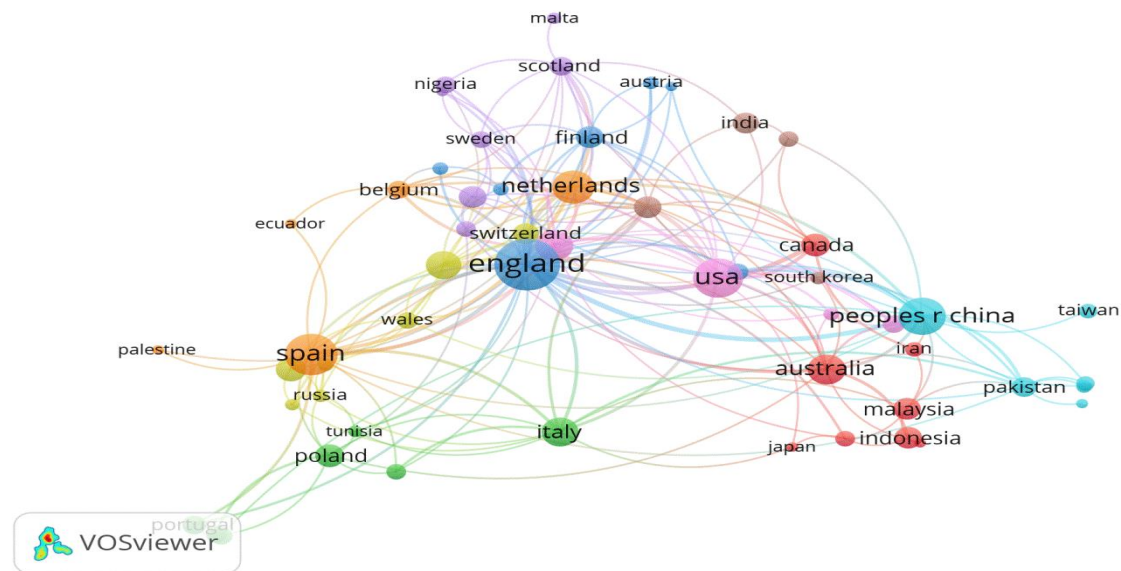
Figure 7: Co-authorship by country analysis

Figure 7 depicts visualization of co-authorship analysis that provides impactful insight into cooperation patterns among researchers from different countries in specific fields. This network map identifies the most active and productive countries and helps to provide better understand the intellectual networks and communities that have developed around CSR, innovation and competitive advantage research. This can help determine future research directions and facilitate further collaboration between researchers in different regions working on this field.

Bibliographic Coupling Analysis

Bibliographic coupling analysis visualizes the relationships between documents based on shared references (Nájera-Sánchez et al., 2020). Based on the WoS database, table 5 presents the 10 most cited authors in CSR, innovation and competitive advantage literature. Results show that among the top 10 most cited authors; Cuili Qian was cited 969 times and had the highest overall link strength of 894. This shows that Cuili Qian has made significant contributions to research on CSR, innovation and competitive advantage. It is also worth noting that some of the top 10 authors have published papers together. This is reflected in the overall link strength of the joint. The results show that Swaen, Valerie had a very strong overall connection with Gond, Jean-Pascal and Maon, Francois proposing that they collaborated on some multiple publications.
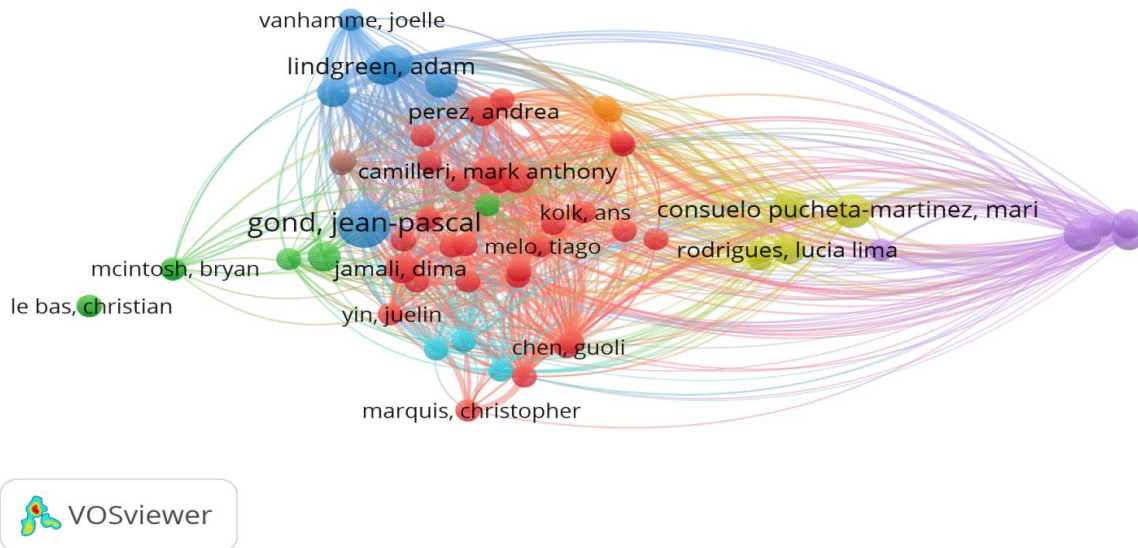
Table 5: Top 10 cited authors

Ranks	Keyword	Citations	Total link strength
1	Qian, Cuili	969	894
2	Marquis, Christopher	739	335
3	Swaen, Valerie	529	1431
4	Gond, Jean-Pascal	443	1032
5	Chen, Guoli	388	880
6	Tang, Yi	388	880
7	Scherer, Andreas Georg	338	742
8	Lindgreen, Adam	330	1672
9	Maon, Francois	330	1672

10	Melo, Tiago	324	693

Source: WoS

Figure 8: Bibliographic coupling analysis

Figure 8 shows the most cited authors, including Marquis and Christopher; Swaen, Valerie; Gond, Jean-Pascal, Chen, Guoli. All of these authors have made significant contributions to this area of research, as proved by their network visualizations. A visualization map provides impactful insight into the associations between documents within a particular area. By ascertaining the most cited authors and the associations between them, this research may lead to a better understanding of scholarly networks and communities developed around research in related fields.

Research Implications
Corporate social responsibility (CSR) and innovation are two significant research themes that have been widely studied in the literature and are closely related. The most cited authors and keywords provide insight into the most impactful researchers and research topics in the field and can be used to guide future research. A bibliographic coupling analysis found several leading authors who have been widely cited and have made significant contributions to the areas of CSR, innovation and competitive advantage. Their work can serve as a basis for future research and guide the development of theory in this field.

Conclusion
Bibliographic analysis provided insight into the most dominant authors, research themes and countries in the areas of CSR, innovation and competitive advantage. The results highlight the link between CSR and innovation and the importance of considering how these practices can lead to competitive advantage for companies. The results of this analysis will serve as a guide for future research and as a basis for theoretical development in this area. Bibliographic analysis provides insight into the current state of research on CSR, innovation and competitive advantage. Research results show that the importance of CSR and innovation is increasingly recognized for creating competitive advantage, but the composite interaction of these concepts requires further research. This study highlights several areas where future research could make an important contribution in understanding the links between CSR, innovation and competitive advantage, especially in the

context of emerging economies and SMEs. The analysis also identified numerous gaps in the literature. For instance, there is a current lack of understanding of how CSR can support disruptive innovations that have the potential to transform industries and go for new markets.

Research Limitations

Current study has some limitations like documents were extracted from only one database e.g. WoS and this study ignored the other sources like Scopus, and Google scholar etc. Only published articles were included in the analysis for the period of 2009 to 2023.

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