L'università è il luogo della ricerca scientifica e della diffusione della conoscenza. Ricerca vuol dire spiegare il mondo reale, così da poterne predire gli andamenti e condizionarli verso esiti desiderabili. Nel campo sociale, la ricerca è volta a comprendere i fenomeni economici e politici che caratterizzano le comunità. Le conoscenze così acquisite sono utilizzate per scopi di governo e promozione del benessere delle popolazioni. Con il presente volume il Dipartimento di scienze economiche e aziendali dell'Università di Cagliari intende mettere a disposizione di chiunque vi possa avere interesse alcuni degli esiti più significativi della sua ricerca recente. L'opera presenta 26 contributi di 42 ricercatori nei campi: banca e finanza, economia del settore pubblico e del turismo, gestione e misure d'impresa, analisi quantitativa, con l'auspicio che i lavori, proposti in modalità open access, possano essere letti e risultare utili per la migliore comprensione di una parte, per quanto piccola, della realtà che ci circonda.

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16. MAPPING RESEARCH ON CORPORATE SOCIAL RESPONSIBILITY AND INNOVATION

di *Manuel Castriotta*, *Maria Chiara Di Guardo* and *Elona Marku*

Abstract

Sustainable development and innovation represent a challenge for all firms. Although innovation is a crucial means for achieving corporate social responsibility (CSR), existing literature lacks providing a comprehensive examination of the relationship between CSR and innovation. Using a co-citation analysis and examining 28 years of research at the intersection of these two broad domains, this paper aims at mapping and visualizing the latent intellectual structure, highlighting the different groups of thought and focal streams. Our results show that CSR-innovation field is fragmented with a few overlaps between papers; the intellectual structure is polycentric with a star-shaped network. Five research groups emerge (1) *Strategy and competitiveness*, (2) *Performance models*, (3) *Cross-sector alliances for social innovation,* (4) *Managing sustainable development*, and (5*) Intangible assets*. This study contributes to both innovation and CSR literature by providing more accurate knowledge of the structural foundations and presenting the main research subfields.

Keywords: CSR, innovation, review, mapping, co-citation, VOSviewer

Responsabilità sociale delle imprese e innovazione: Un'analisi bibliometrica

I paradigmi dello sviluppo sostenibile e dell'innovazione rappresentano una sfida cruciale per tutte le imprese. Sebbene l'innovazione sia un mezzo essenziale per ottenere la responsabilità sociale delle imprese (RSI), la letteratura esistente non fornisce una visione esaustiva delle relazioni concettuali tra RSI e innovazione. Attraverso un'analisi di co-citazione della letteratura scientifica all'intersezione tra le due aree di ricerca, questo lavoro si propone di mappare e visualizzare la struttura intellettuale latente, mettendo in evidenza le principali scuole di pensiero. I nostri risultati mostrano una struttura intellettuale di forma policentrica, frammentata, e con poche sovrapposizioni tra i contributi scientifici. La rete di relazioni tra i vari studi assume una forma che possiamo definire a stella. In particolare, emergono cinque gruppi o scuole di pensiero (1) *Strategia e competitività*, (2) *Modelli di performance*, (3)

Alleanze intersettoriali per l'innovazione sociale, (4) *Gestione dello sviluppo sostenibile* e (5) *Attività immateriali.* Questo studio contribuisce alla letteratura della RSI e dell'innovazione fornendo una conoscenza più accurata dei modelli teorici, delle relazioni strutturali e presentando i principali sottocampi di ricerca.

Parole-chiave: XXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXX

1. Introduction

The sustainable development challenges all firms, especially those whose R&D processes aim at generating new products or services. In this vein, innovation is often perceived as a crucial means for achieving corporate social responsibility (CSR) (Ferauge, 2012; Varma et al., 2018).

Existing literature highlights a broad range of CSR and innovation sub-disciplines, activities, and subsequent potential value, both in research and practice across multiple sources of theoretical and empirical approaches; this context suggests a considerable fragmentation within the fields posing a risk to the accumulation of knowledge and the integration of findings among researchers (Rousseau et al. 2008). The need for a review as a means of overcoming fragmentation and necessary to determine whether differences within a domain are reflective of different starting points or assumptions, or whether they represent authentic differences within that domain. In addition, it is well known that literature reviews "summarize in an explicit way what is known and not known about a specific practice-related question" (Briner et al. 2009, p. 19).

Despite the increase in research and practice on CSR and innovation, a comprehensive examination of the relationship between these two constructs is yet unclear. Scholars often associate CSR and innovation, however, they do not explicate their understanding of the connection between them or the assumptions they make when exploring this relationship. A review would allow scholars to reach a more explicit and comprehensive understanding of CSR–Innovation, and enhance research both theoretically and empirically. We address this endeavor by using a co-citation analysis on 28 years of research. This study contributes to both innovation and CSR literature by exposing the diversity of thoughts of CSR–Innovation and providing multiple conceptual maps for navigating the intellectual structure.

2. Method

In this study, we adopted the co-citation technique to offer a complementary view to traditional qualitative literature reviews (Di Guardo & Harrigan, 2012; Loi et al., 2016; Marku et al., 2017; Zupic & Čater, 2015). More specifically, co-citation analysis is based on the count of the number of times two documents are cited together. The greater the number of researchers making the same co-citations between two articles, the greater the level of the similarity between the two concerned papers is supposed to be (McCain, 1990). The application of this logic to a large number of articles allows the identification of the so-called intellectual structure of a field, which symbolizes the way in which scholars shape science and organize the available literature (Castriotta & Di Guardo, 2016; Loi et al., 2016).

Following previous studies, we use the ISI Web of Science database as a tool of bibliometric data collecting (Zupic & Cater, 2015). Given the cross-cutting nature of the disciplines, the data were extracted from Social Science Citation Index Expanded, Arts & Humanities Citation Index and Emerging Sources Citation Index in a 28-year timespan that goes from 1990 to 2017.

Contributions belonging to the CSR and innovation field were searched using the following string for the title, abstract, or keywords: TS=(((“corporate social responsibilit*”) or (“csr” - refined by: web of science categories: business or management or economics) or (“corporate responsibilit*”) or (“corporate social performance”) or (“corporate citizenship”) or (“corporate philanthropy”) or (“csp” - refined by: web of science categories: business or management or economics) or (“organi$ational responsibilit*”) or (“corporate social irresponsibilit*”) or (“corporate community involvement”) or (“corporate social responsiveness”) or (“corporate irresponsibilit*”) or (“corporate responsiveness”) or (“corporate community relation*”) or (“organi$ational social responsibilit*”) or (“corporate social ethic”) or (“corporate social rectitude”) or (“corporate social religion”) or (“organi$ational citizenship”)) AND ((innovation) or (“r&d”) or (“high tech*”) or (“hi tech”))). Once the first list of articles was produced, we checked in their content for possible synonyms or other legitimized and shared conceptualizations, allowing to include additional works fitting with our research aims. By running the final string on the Web of Science, 427 contributions, composed of articles (N=403) and reviews (N=22), were extracted.

Since older papers are likely to be cited more times than most recent ones, we arranged three criteria based on the year of publication. Articles published from 1990 to 2005 should have received at least 40 citations in order to be included in the list, while articles published in the timespan 2006-2010

should have received at least 30 citations and a citation trend of at least 1.5 citations per year. Furthermore, for articles appeared between 2011 and 2017, at least 20 citations were required with also a citation trend of at least 1.5 citations per year. After applying these criteria 292 articles were removed from the list and only the 135 most cited were selected.

Table 1 – The set of 69 top co-cited articles ordered by weight citations

N	Label	Weight Citations	Weight Co-Citations
1	Porter & Kramer (2006), *Harvard Busines Review*	971	328
2	McWilliams & Siegel (2000), *Strategic Management Journal*	558	277
3	Luo & Bhattacharya (2006), *Journal of Marketing*	399	153
4	Johnson & Greening (1999), *Academy of Management Journal*	306	148
5	Rothaermel, Agung, & Jiang (2007), *Ind. and Corporate Change*	270	1
6	Lepoutre & Heene (2006), *Journal of Business Ethics*	149	64
7	Waddock, Bodwell, & Graves (2002), *Academy of Manage. Exec.*	131	43
8	Hull & Rothenberg (2008), *Strategic Management Journal*	128	94
9	Gardberg & Fombrun (2006), *Academy of Management Review*	127	61
10	Harrison, Bosse, & Phillips (2010), *Strategic Management Journal*	123	42
11	Spreitzer & Sonenshein (2004), *American Behavioral Scientist*	101	3
12	Miller & del Carmen Triana (2009), *Journal of Manag. Studies*	91	7
13	Ganesan et al., (2009), *Journal of Retailing*	85	9
14	Bocken, Short, Rana, & Evans (2014), *Journal of Cleaner Prod.*	84	11
15	Kanter (1999), *Harvard Business Review*	84	31
16	David, Bloom, & Hillman (2007), *Strategic Management Journal*	81	44
17	King & Pearce (2010), *Annual Review of Sociology*	80	11
18	Husted & Allen (2007), *Long Range Planning*	61	40
19	Kesidou & Demirel (2012), *Research Policy*	58	15
20	Kitzmueller & Shimshack (2012), *Journal of Economic Literature*	58	22
21	Klassen & Vereecke (2012), *Int. Journal of Production Economics*	58	18
22	Mingers & White (2010), *European J. of Operational Research*	56	1
23	Costantini & Mazzanti (2012), *Research Policy*	55	12
24	Mainardes, Alves, & Raposo (2011), *Management Decision*	54	9
25	Craig, & Dibrell (2006), *Family Business Review*	52	14
26	Vilanova, Lozano, & Arenas (2009), *Journal of Business Ethics*	52	37
27	Grinstein (2008), *European Journal of Marketing*	51	2

28	Lyon & Maxwell (2007), *Policy Studies Journal*	51	5
29	Golicic & Smith (2013), *Journal of Supply Chain Management*	50	16
30	Jenkins (2009), *Business Ethics: A European Review*	50	30
31	York & Venkataraman (2010), *Journal of Business Venturing*	45	22
32	Ansari, Munir, & Gregg (2012), *Journal of Management Studies*	43	11
33	Halme & Laurila (2009), *Journal of Business Ethics*	43	24
34	Ditlev-Simonsen & Midttun (2011), *CSR and Env. Management*	41	20
35	Auld, Bernstein, & Cashore (2008), *Annual Review of Env. and Res.*	40	12
36	Zwetsloot (2003), *Journal of Business Ethics*	38	10
37	Kolk, Rivera-Santos, & Rufín (2014), *Business & Society*	37	15
38	Arya & Salk (2006), *Business Ethics Quarterly*,	34	16
39	Brammer, Hoejmose, & Marchant (2012), *Business Str. and the Env.*	34	17
40	López-Gamero, Claver-Cortés, & Molina-Azorín (2008), *Journal of Business Ethics*	32	14
41	Warhurst (2005), *Futures*	29	6
42	Boehe & Cruz (2010), *Journal of Business Ethics*	27	16
43	Franks & Vanclay (2013), *Environmental Impact Assessment Rev.*	25	1
44	Peloza & Falkenberg (2009), *California Management Review*	25	12
45	Patten (2002), *Journal of Business Ethics*	24	3
46	Dibrell, Craig, & Hansen (2011), *Journal of Small Business Manag.*	23	10
47	Hall, & Wagner (2012), *Business Strategy and the Environment*	23	9
48	Hsu, Hu, Chiou, & Chen (2011), *Expert Systems with Applications*	23	1
49	Tang & Tang (2012), *Journal of Business Venturing*	23	12
50	Wagner (2010), *Journal of Business Ethics*	23	16
51	Maxfield (2008), *Journal of Business Ethics*	22	19
52	Arjaliès & Mundy (2013), *Management Accounting Research*	21	6
53	Gallego-Alvarez, Prado-Lorenzo, & García-Sánchez (2011), *Management Decision*	21	11
54	Gonzalez-Padron, Hult, & Calantone (2008), *Ind. Market. Manag.*	21	2
55	Mohr & Sarin (2009), *Journal of the Academy of Marketing Science*	21	4
56	Xia & Li-Ping Tang (2011), *Management Decision*	21	2
57	Jones, Comfort, Hillier, & Eastwood (2005), *British Food Journal*	20	6
58	Lioui & Sharma (2012), *Ecological Economics*	20	13
59	Roxas & Coetzer (2012), *Journal of Business Ethics*	20	10
60	Skarmeas, Leonidou, & Saridakis (2014), *J. of Business Research*	20	2

61	Voegtlin, Patzer, & Scherer (2012), *Journal of Business Ethics*	20	7
62	Perrini (2006), *California Management Review*	19	6
63	Selsky & Parker (2010), *Journal of Business Ethics*	19	8
64	Blanco, Rey-Maquieira, & Lozano (2009), *J. of Economic Surveys*	18	4
65	Groves, & LaRocca, (2011), *Journal of Business Ethics*	18	3
66	Helms, Oliver, & Webb (2012), *Academy of Management Journal*	18	5
67	Husted, & Allen (2007), *Journal of Business Ethics*	18	14
68	Dam & Scholtens (2012), *Corporate Governance: An Int. Review*	17	10
69	Luo & Donthu (2006), *Journal of Marketing*	15	14

Moreover, we set up a threshold according to which less co-cited articles were omitted from the list (Kovacs et al., 2015). Papers should have been co-cited with at least 30% of articles composing the list of contributions. An exception was made for more recent articles for which a minimum threshold of 20% of co-citations was established. These filters led to a final sample that consists of 69 articles (Table 1). Finally, the mapping and visualization of the intellectual structure organized in groups was performed using the VOSviewer software whose algorithm based on association strengths (van Eck & Waltman, 2016).

3. Discussion of Results

Table 1 shows the publishing journals for the 69 most co-cited articles in the field of CSR and innovation. The inspection of the papers journal-wise reveals various interesting points. First, *Journal of Business Ethics* is the most influential journal in the field, as one out of every five most important articles is published here. *Strategic Management Journal* and *Management Decision* follow at the second and third place of the ranking. Second, there is a strong prevalence of empirical articles mainly adopting quantitative methods. Third, only two articles are published on *Research Policy* the only one mainly innovation focused journal. Fourth, four contributions are practitioner-oriented (*California Management Review* and *Harvard Business Review*) while the other articles are published in journals with a more pronounced academic cut, with an emphasis on analysis rather than on normative prescription. Finally, half of the articles focus on organization and management studies and more than one every four deals with strategy and entrepreneurship studies.

Figure 1 – Co-citation and cluster analysis

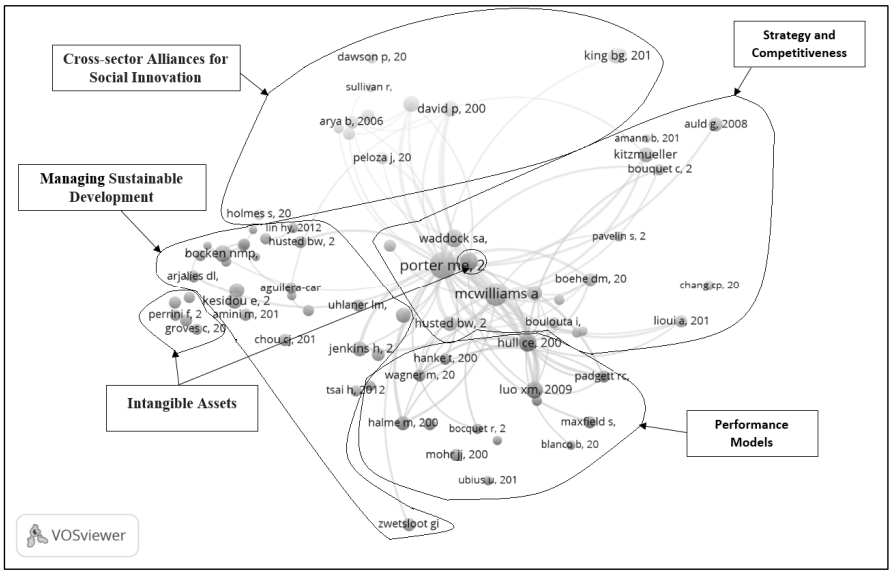

Figure 1 depicts the intellectual structure at the intersection of CSR and innovation domain. The most important contributions—in terms of the impact of co-citations—are positioned at the center of the map, while those with the lowest number of co-citations lay at the boundaries. As it clearly emerges, the field has a polycentric structure with a few overlaps between papers. The links between papers show a lack of dialogue among most scholars. Indeed, the network is characterized by a star shape with one important contribution at the center of the map, namely the study of Porter and Kramer (2006), while the other main contributions belong to the different clusters.

Looking at the content of the different papers included in our map, the main feature appears to be their heterogeneity. The majority of these contributions is CSR-oriented while the role of innovation is considered secondary, instrumental, or comparative. On the contrary, a small part of them is innovation-oriented. The diversity in conceiving the CSR and innovation relationship does not seem to be determinant for the positioning of the papers in the map, on the contrary, the positioning criteria are based on a latent, transversal, and intergroup connections.

In particular, the cluster analysis highlights five groups: (1) *Strategy and competitiveness*, (2) *Performance models*, (3) *Cross-sector alliances for social innovation*, (4) *Managing sustainable development*, and (5) *Intangible assets*. The strongest relationships occur between Cluster 2 and Cluster 3

which represent the theoretical foundation of the topic. In addition, from a deeper look into the map, we can identify two dimensions (vertical and horizontal). The horizontal dimension emphasizes the theoretical approach: sociology on the top, strategy at the center, and economics on the bottom. On one hand, it emphasizes social acceptance while on the other hand it focuses more on efficiency. The vertical dimension regards the methodological aspect, it goes from case studies on the left side to sample-based analyses on the right side. Papers positioned on the left side of the map adopt RBV and dynamic capabilities perspective, the focus predominantly on investigating the dynamics related to strategy. In addition, articles on the right side apply an economics approach attempting to measure the relationship between CSR, corporate social performance and financial performance while assigning a different role to the R&D function.

The papers included in the "*Strategy and competitiveness*" research group (Cluster 1) CSR is considered a useful strategy to gain a competitive advantage. Scholars highlight how CSR strategies need to be adequate and fit to the overall corporate strategies, thus general CSR strategies not necessarily lead to higher innovation outputs. In Cluster 2, "*Performance models*" group, scholars consider innovation either a control variable, a mediator, an antecedent, or an output while investigating the relationship between CSR and CSP, or the one between CSR and financial performance. The "*Cross-sector alliances for social innovation*" group (Cluster 3) appears to be more homogeneous as there is not a specific core contribution. Studies of this cluster focus on examining the relationship between the strategic use of collaborations and partnerships and the effects on the output of innovation and CSR. It is interesting to point out the contribution of Holmes and Smart (2009) who investigate the concept of open innovation within the contest of CSR; this study represents a bridge between cluster 3 and Cluster 4. The article of Dawson and Daniel (2010) aimed at understanding social innovation from a sociological perspective by proposing a provisional framework. The "*Managing sustainable development*" research group (Cluster 4) underlines important determinants of eco-innovations, mainly the supply-side factors such as firms' organizational capabilities and demand-side mechanisms, such as customer requirements and societal requirements on corporate social responsibility (i.e., Kesidou & Demirel, 2012). Special attention is devoted to sustainable oriented innovation (Adams et al., 2016). Also, the rise of awareness is an essential aspect for the generation of a virtuous circle between CSR, sustainability and innovation; CSR and innovation are peer constructs, none of them belongs to an upper level. Papers in Cluster 5 highlight the common trait of both R&D and CSR, the nature of "intangible assets". Most of the

contributions included in the "*Intangible assets*" research group are qualitative studies and they attempt to strengthen the contribution of Gardberg and Fombrun (2006) according to which citizenship programs are strategic investments comparable to R&D.

4. Conclusion

This paper examines the latent structure of CSR and innovation literature on a 28-year time span. We applied a bibliometric approach for the investigation of the intellectual structure at the intersection of these two broad research fields. Our results show that the domain is still fragmented – in terms of theory and confirmative models; the field is characterized by a polycentric structure with a few overlaps among clusters. The network is star shaped highlighting a core article and several hub-papers positioned in each clustered group.

Our findings confirmed that CSR-Innovation is a newly developing area of research. Our study contributes to both CSR and innovation literature by unveiling important detail of the various lines of argument and perspectives employed, and thus enabled us to move towards our goal of developing overarching conceptualizations of CSR-Innovation. CSR-Innovation provides a lens through which to view multiple internal and external stakeholder relationships within the innovation studies. A move towards consideration of internal stakeholders has been noted in the CSR literature. CSR-innovation can more fully develop notions of workers as stakeholders – the nature of their stake and their engagement with the organization – and their special role as constituting and representing the firm. Notably, we seek to provide grounds for dialogue and plurality among multiple perspectives. Our own extensive and subjective research experience brings both value and limitations to this analysis. Inevitably, there might be disagreement with our analyses and resultant theses; critique on what we have gotten wrong and what we have omitted. We look forward to such dissensus and debate; rather than gathering the field together as an integrated whole, we hold that the goal for a conceptual analysis such as this is to map the territory, trek less-explored paths and expose the terrain.

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