



Sustainable banking: A literature review and integrative framework

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ABSTRACT

The literature on sustainable banking has been prolific since the beginning of the century. This context prompts the need to understand and categorize an increasingly heterogeneous body of sustainable banking literature. We perform a literature review using bibliometric techniques of 676 articles published between 1995 and 2019 in the Web of Science (WoS) database. Our results provide a perspective on the evolution of the sustainable banking literature over time and across academic categories and journals. An integrative framework emerges from the review, providing a comprehensive perspective of the nine clusters or thematic areas in sustainable banking literature embedded in three domains: Ethical Foundations, Sustainable Products, and Business-Case. The framework integrates the rich literature on sustainable banking, maps the predominant research areas, and highlights the primary research gaps. Finally, the literature review demonstrates a progressive convergence of the instrumental and ethical approaches to sustainable banking. This convergence highlights the importance of both the vivid societal debate around the role of banks in the advancement toward sustainability and the business rationale for banks to engage in sustainable strategies.

1. Introduction

The banking industry is important to achieving sustainable development due to its unique intermediation role, which is essential for mobilizing financial resources toward sustainable goals (Alexander, 2014; Beck et al., 2010; United Nations, 2015; Yip and Bocken, 2018). For example, the provision of resources to green projects and the management and distribution of sustainable responsible investment (SRI) funds help ensure the funding of Sustainable Development Goals (SDG). Several external shocks have deeply affected the pillars of the banking industry's business model, such as the 2008 financial crisis (Mattila et al., 2010; Ruiz et al., 2014), the Fourth Industrial Revolution (Schwab, 2017), and the COVID-19 pandemic. These shocks are accelerating the digital and sustainable transformation of banks (Forcadell et al., 2020a).

Sustainable banking is defined as the delivery of “financial products and services, which are developed to meet the needs of people and safeguard the environment while generating profit” (Yip and Bocken, 2018:150). Sustainable banking (Jeucken, 2004, 2010) and related terms such as banks' Corporate Social Responsibility (CSR), ethical-banks (Birindelli et al., 2015; San-José et al., 2011),

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eco-banking, and green-banks (Bahl, 2012; Bouma et al., 2017) have been analyzed extensively, as they play crucial roles in fostering sustainable development. The growing relevance of sustainable banking as an own-entity area of study necessitates an extensive review of the existing literature. Extant literature reviews of sustainable banking focus on specific niches, failing to offer a full picture of the sustainable banking domain. For example, Gutiérrez-Nieto and Serrano-Cinca (2019) review the microfinance literature, Fabregat-Aibar et al. (2019) analyze socially responsible funds, and Zhang et al. (2019) and Sarma and Roy (2020) examine the green banking. However, a comprehensive review that organizes the literature of sustainable banking as a research field is absent.

Using bibliometric techniques, specifically co-word analysis, we perform a systematic literature review of 676 studies published between 1995 and 2019 in journals indexed in the Social Sciences Citation Index (SSCI) database, available through the Web of Science (WoS). Our analysis offers multiple viewpoints of banking literature through: i) a time-based categorization of studies, WoS categories, and journals; ii) a systematization of extant literature using an integrative framework around three domains sub-divided into nine thematic clusters; and iii) an examination of links across clusters that reveal a convergence of instrumental and ethical perspectives in sustainable banking. From this analysis, we provide eight observations that demarcate the sustainable banking literature, describe the knowledge structure and connectivity patterns across domains, examine the evolution of the different topics, visualize the main academic focus of interest, varied approaches that shape the topic of sustainable banking, and reasonable progression and research-gap paths.

2. Research method

Our analysis is restricted to peer-reviewed articles gathered through WoS, a database often used for bibliometric studies (Liu et al., 2015), especially in social sciences (Zupic and Cater, 2015). We select 2281 publications (articles or reviews) from the WoS's SSCI database that match searches for "sustainable bank," "ethical bank," and "corporate social responsibility," among other terms, in combination with the term "finance sector/industry".¹ Subsequently, we read all of the individual abstracts, and entire articles as needed to verify the pertinence of each article. In addition, we adopt the "institutionalism" research line (i.e., focusing on the banks) rather than the "welfarist" approach that focuses on bank clients themselves (Gutiérrez-Nieto and Serrano-Cinca, 2019). We cross-check findings after these screenings and discuss possible disagreements to determine the final sample, composed of 676 studies from the period 1995–2019.

Our sample of 676 articles yields 1661 different keywords. To identify the different topics in the literature and their relationships, we perform a co-word analysis (Cobo et al., 2011; He, 1999) after a standardization process (Choi et al., 2011). This process eliminates method-related and non-related terms, reducing the number of keywords to 885. We employ the VOSviewer software (van Eck and Waltman, 2010), using network analysis techniques to group topics (Waltman et al., 2010).

3. Results

3.1. Sustainable banking research trends: evolution over time and across WoS categories and journals

Figs. 1–3 summarize the sustainable banking literature's evolution according to the number of articles published during the period 1995–2019, citations per article, h index, and cited half-life. We observe from 2009 onward a spike in the number of publications. The 2008 financial crisis acted as an important exogenous shock that prompted and increased academic attention to sustainable banking issues, since irresponsible conduct in the industry was determined to be the origin of the crisis (Eberle et al., 2013; Forcadell and Aracil, 2017a). This phenomenon is also noticeable in Figs. 2 and 3. As 88% of the articles in our sample were published between 2009 and 2019, we focus on this period.

Table 1 shows the most active journals and their associated WoS categories in sustainable banking research over the period 2009–2019. Fig. 4 identifies the proportion of sustainable banking publications across each WoS category²: Business (40.48% of total publications), followed by Economics (24.9%), and Management (22.9%). Within these categories, the *Journal of Business Ethics* (included in the WoS Business and Ethics categories) stands out, publishing 13.45% of the total publications in the period. In contrast, the WoS Finance category lags behind, with just 13.9% of overall contributions to the field.

Fig. 5 shows the evolution of sustainable banking publications across WoS categories. In 2009, the primary categories of journals involved in sustainable banking research were related to Business, followed by Ethics. However, Environmental Studies presents an important inflection point in 2016, becoming the most active WoS category in sustainable banking research through the present time.

¹ We have used the following query to build the database: (ts=((sustainab* or "enviroment* performance" or "environment* responsib*" or "environmental efficien*" or "environmental report*" or "environmental risk" or "social report*" or "social* responsib*" or "corporate social" or "efficien* social" or "social efficien*" or "social performance" or csr or sdg or csp or esg or ethic* or "financial inclusion" or "stakeholder engagement" or "stakeholder skepticism" or "impact investment" or "development support" or "equator principles" or "cs irresponsibility" or "social irresponsibility" or "hypocresy" or "authenticity" or "skepticism" or micro-credit or microcredit or microfinance or "money laundering" or "green bond*") and (bank* or "financ* industry" or "financ* sector") or ("green financ*" or "green bank*" or "climate financ*" or "carbon financ*" or "green investment" or "green bond*") not ("world bank" or "islamic bank*"))) and (wc=(economics or business or environmental studies or management or environmental sciences or ethics or green sustainable science technology or business finance or development studies or international relations or political science or social sciences interdisciplinary or sociology)) and language: (English) and document types: (article or review).

² Note that a journal can be assigned to more than one category.

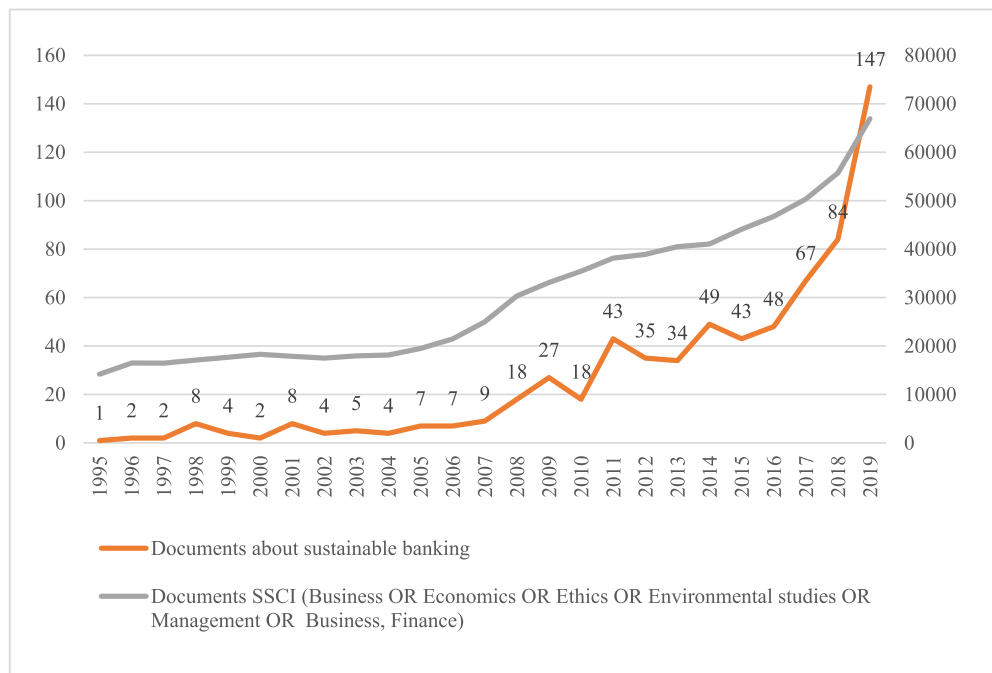


Fig. 1. Number of publications in sustainable banking over the sample period.



Fig. 2. Citations per document and h index of documents in sustainable banking.

Finally, Fig. 6 depicts publication outputs per countries, where Spain takes the lead, followed by the United States, England and China, all of them with more than 100 documents.

Observation 1.1. Studies on sustainable banking are more frequent in Business, Economics, and Management journals than in mainstream Financial journals.

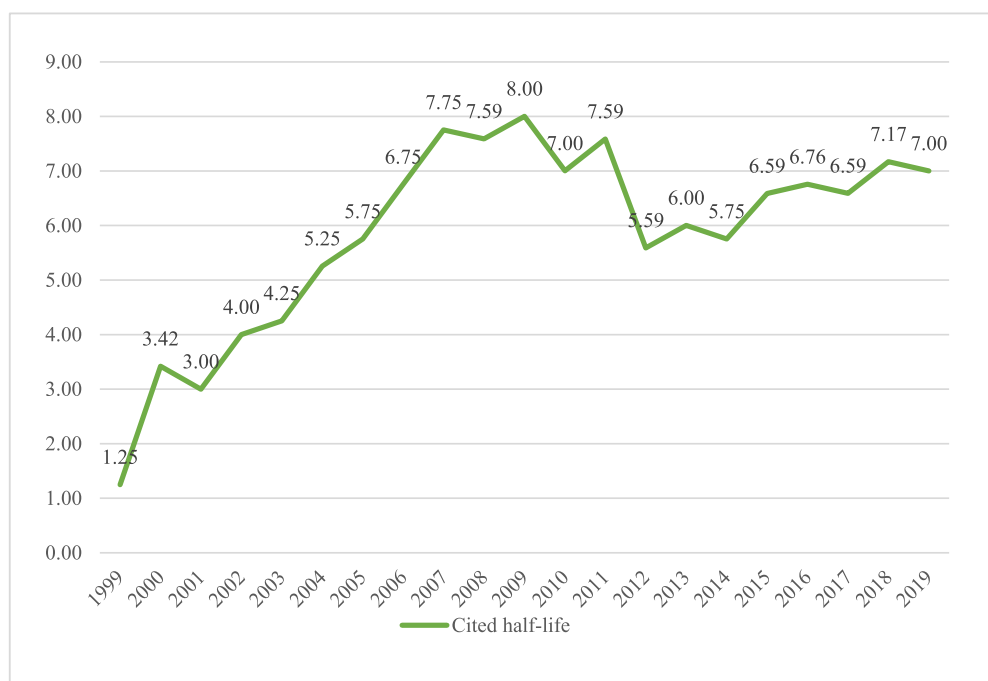


Fig. 3. Cited half-life of documents in sustainable banking.

Table 1
Publications in sustainable banking across Journals (2009–2019).

Publication	Freq.	% over total sample	Rank-normalized IF	WoS categories (2019 JCR quartile)
<i>Journal of Business Ethics</i>	80	13.45%	0.981	Business (Q2); Ethics (Q1)
<i>Sustainability</i>	44	7.39%	0.667	Green & Sustainable Science & Technology (Q3); Environmental Sciences (Q2); Environmental Studies (Q2)
<i>Corporate Social Responsibility and Environmental Management</i>	26	4.37%	0.912	Business (Q1); Environmental Studies (Q1); Management (Q1)
<i>International Journal of Bank Marketing</i>	13	2.18%	0.497	Business (Q2)
<i>World Development</i>	12	2.02%	0.951	Development Studies (Q1); Economics (Q1)
<i>Journal of Cleaner Production</i>	11	1.85%	0.932	Green & Sustainable Science & Technology (Q1); Engineering, Environmental (Q1); Environmental Sciences (Q1)
<i>Journal of Business Research</i>	10	1.68%	0.803	Business (Q1)
<i>Journal of Banking & Finance</i>	10	1.68%	0.785	Business, Finance (Q2); Economics (Q1)
<i>Business Strategy and The Environment</i>	10	1.68%	0.940	Business (Q1); Environmental Studies (Q1); Management (Q1)

Observation 1.2. The relative importance of Business and Ethics categories in publishing sustainable banking research is decreasing over time in favor of the Environmental Studies category.

Observation 1.3. Considering the experience and publishing patterns in the aftermath of the 2008 financial crisis, the COVID-19 pandemic may re-invigorate research in sustainable banking.

3.2. Sustainable banking literature: an integrative framework

Based on the VOS algorithm we group keywords that appear in five or more documents, generating nine clusters (Table 2). We propose an integrative framework for the sustainable banking literature drawn on the insights from the keywords analysis and the understudied conceptual links among them. The framework associates the nine different clusters with three domains: (A) *Ethical Foundations*, (B) *Sustainable Products*, and (C) *Business-Case*. The construction of the framework is guided by the following principles (Valor, 2012): universality (suitable to host any article within the sustainable banking literature), comparability (comparisons can be made inter and intra-domains), information accessibility (built on public information), parsimony (encompassing a reasonable number of clusters), and, comprehensive of the different research dimensions within the sustainable banking research.

Domain (A), *Ethical Foundations*, combines the role of institutional enablers (cluster “Supervision and regulation”) and firm drivers (clusters “Corporate governance” and “Organizational ethics-focus”). These ethical foundations enable social and ecological

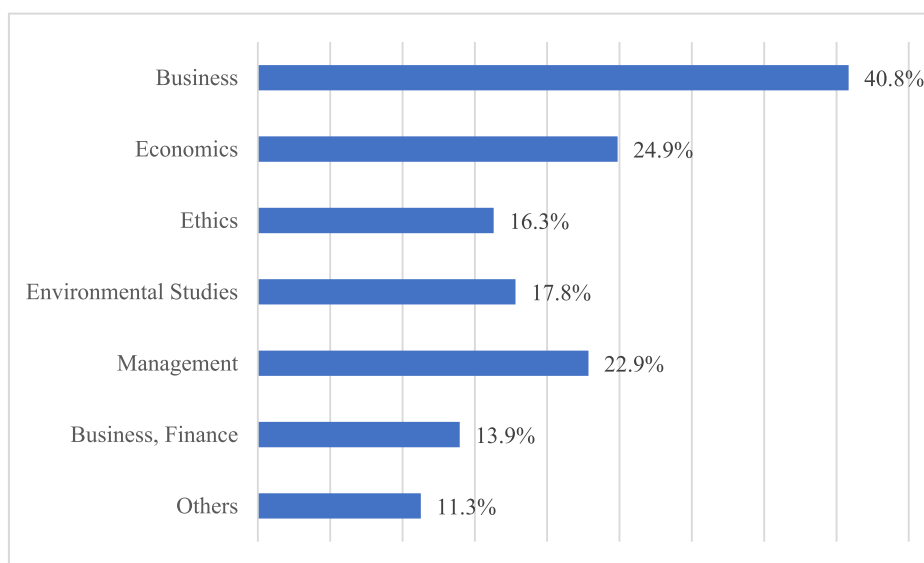


Fig. 4. Articles in sustainable banking under the different WoS categories (as a% of total sample between 1995–2019).

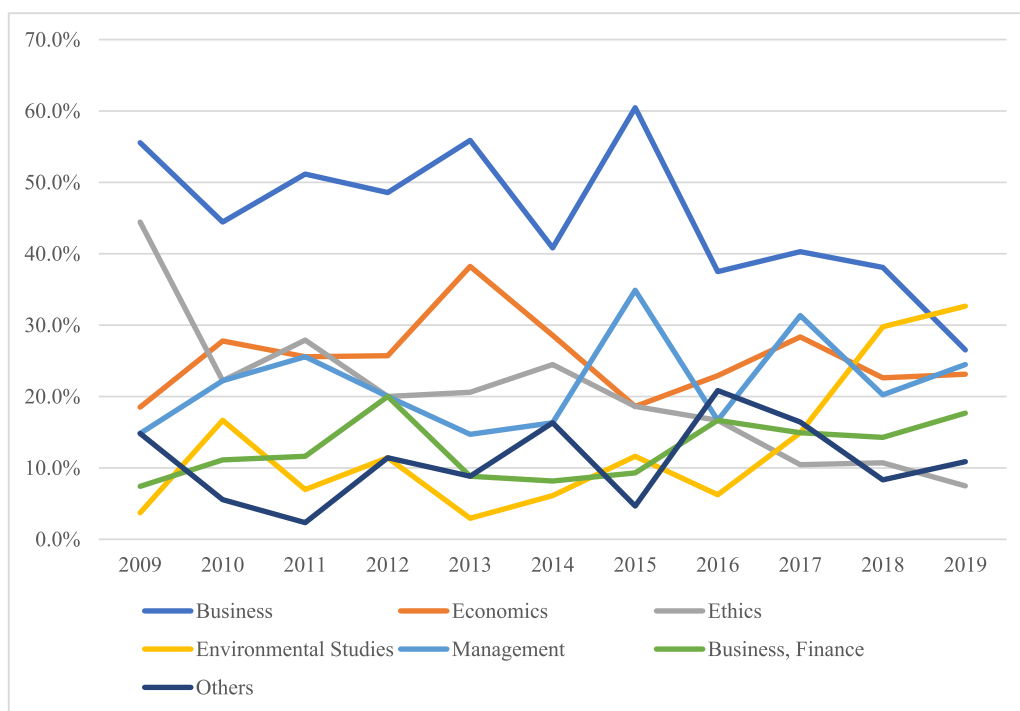


Fig. 5. Evolution of sustainable banking articles across WoS categories (as a% of total documents).

sensemaking, which differentiates genuine sustainable banks from opportunistic, symbolic, or greenwashing initiatives (Arend, 2013).

Domain (B), *Sustainable Products*, encompasses specific financial products that foster sustainable development, such as “SRI and green banking”, “financial inclusion”, and “microfinance”.

Domain (C), *Business-Case*, integrates studies that reveal the indirect links between sustainable banking and corporate performance (Vishwanathan et al., 2020) through “Innovation” that allows adaptation to fast-changing environments (Birkinshaw et al., 2008); “Customer-orientation” to build social capital (i.e., legitimacy, trust, loyalty) and to survive ongoing industry transformation (Forcadell and Aracil, 2019; Forcadell et al., 2020b); “Stakeholder management” to obtain a reward from stakeholders’ satisfaction; and “Risk,” reflecting sustainability’s value in reducing banks’ risk by introducing environmental and social considerations into risk

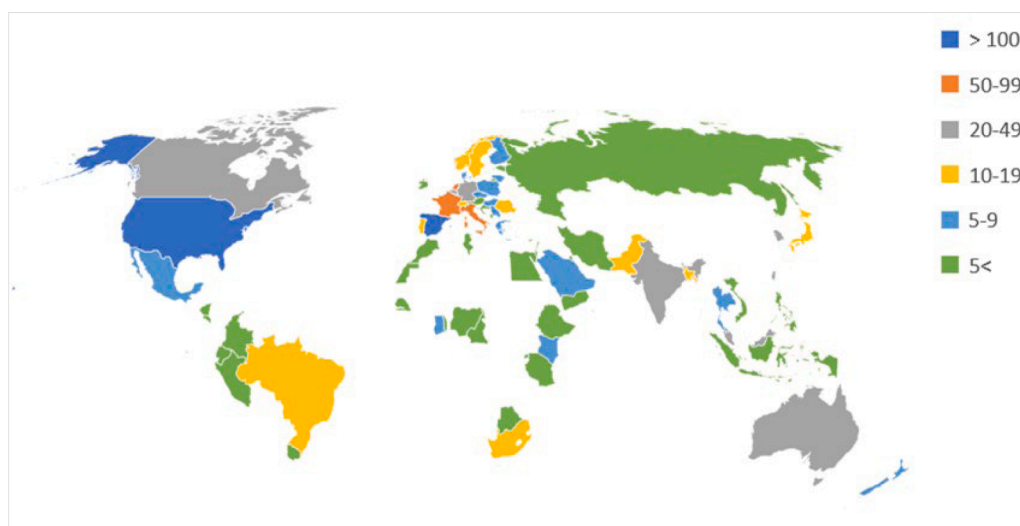


Fig. 6. Geographical distribution of sustainable banking literature: Number of documents per country (2009–2019).

Table 2

An integrative framework of sustainable banking literature around main domains and clusters.

% Nr doc	Nr doc	Main domains and clusters in the sustainable banking literature	Most frequent words
27,91%	319	(A) Ethical Foundations	
	111	Supervision and regulation	credit; regulation; employee engagement; fractional reserve; deposit
	125	Organizational ethics-focus	financial crisis; ethics; employees; ethics management; banking ethics
	83	Corporate governance	corporate governance; corporate reputation; reporting; environment; investor
33,95%	388	(B) Sustainable Products	
	115	SRI and green banking	sustainability; green banking; SRI; China; climate change
	146	Financial inclusion	developing country; financial inclusion; institutions; gender; rural banking
	127	Microfinance	microfinance; efficiency; poverty; outreach; mission drift
38,15%	436	(C) Business-Case	
	119	Financial performance and innovation	financial performance; CSR performance; sustainable development; ethical bank; innovation
	220	Customer-orientation	CSR; loyalty; customer; CSR perceptions; commercial bank
	97	Stakeholder management & risk reduction	stakeholders; CSR disclosure; CSR reporting; social efficiency; risk

Please note that the same document can pertain simultaneously to different clusters.

management (Godfrey et al., 2009; Weber, 2005).

Among the full study sample, Domain (C) is the most frequent category, demonstrating a heightened research interest in instrumentality issues, and Domain (A) the least frequent.

Cluster metrics in Table 3 present the thematic areas' relative emphasis in the literature. "Customer-orientation" presents the highest *h* index (number of documents and citations) followed by "Microfinance". In turn, "Corporate Governance" leads average impact (citations per document). Finally, "SRI and green banking" demonstrates the highest impact factor and a relevant amount of total citations, despite its recent incorporation into the literature, which confirms the growing interest in this topic (Observation 1.2.)

Table 3 also illustrates the transversal nature of the *Journal of Business Ethics*, *Corporate Social Responsibility and Environmental Management*, and *Sustainability*, three journals that appear among the most frequent journals in all clusters. However, different journals stand out in each cluster. "Microfinance" is often discussed in *World Development*, the *Journal of International Development*, and *Applied Economics Letters*, journals that are included in the "Economics" and "Development Studies" WoS categories, in which poverty-related studies are published primarily. Sustainable banking studies are scarce in finance publications (Observation 1.1.) and mostly devoted to financial tools, such as microfinance, that address grand challenges, such as poverty. For example, we find fewer than 10 articles in *Finance Research Letters* on the topic of sustainable banking, all of them published in 2017 or later and devoted to green finance or microfinance.

Fig. 7 depicts the evolution of the number of articles by cluster through the period 2009–2019. Although "Customer-orientation" is the most frequent theme within the sustainable banking literature, interest in this topic peaked in 2015. "SRI and green banking," associated with banks' contributions to environmental care, experiences a noticeable increase from 19% to 32% share in sustainable banking publications in the period (in line with Observation 1.2.). This trend points to a growing momentum that may result in a higher number of articles related to this cluster in the coming years.

Table 3
Clusters' metrics.

Cluster	Key words	Rank-norm. IF	Docs.	Citations	Citations per doc.	H ind	Most frequent journals (% documents across cluster)
(A) Ethical Foundations							
<i>Supervision and regulation</i>	13	0.631	111	1395	12.57	18	<i>Journal of Business Ethics</i> (19.8%); <i>Sustainability</i> (9.0%); <i>Corporate Social Responsibility and Environmental Management</i> (4.5%)
<i>Organizational ethics-focus</i>	20	0.572	125	1406	11.25	23	<i>Journal of Business Ethics</i> (27.2%); <i>Corporate Social Responsibility and Environmental Management</i> (8.0%); <i>Personnel Review</i> (4.0%)
<i>Corporate governance</i>	10	0.506	83	1618	19.49	21	<i>Journal of Business Ethics</i> (16.9%); <i>Corporate Social Responsibility and Environmental Management</i> (14.5%); <i>Sustainability</i> (13.3%)
(B) Sustainable Products							
<i>SRI and green banking</i>	14	0.645	115	1557	13.54	20	<i>Sustainability</i> (15.7%); <i>Journal of Business Ethics</i> (7.8%); <i>Corporate Social Responsibility and Environmental Management</i> (6.1%)
<i>Financial inclusion</i>	11	0.466	146	1812	12.41	19	<i>Sustainability</i> (6.8%); <i>Journal of Business Ethics</i> (6.2%); <i>Journal of Cleaner Production</i> (3.4%)
<i>Microfinance</i>	8	0.417	127	2002	15.76	25	<i>World Development</i> (7.9%); <i>Journal of International Development</i> (5.5%); <i>Applied Economics Letters</i> (4.7%)
(C) Business-Case							
<i>Financial performance and innovation</i>	10	0.634	119	1650	13.87	22	<i>Sustainability</i> (16.8%); <i>Journal of Business Ethics</i> (12.6%); <i>Corporate Social Responsibility and Environmental Management</i> (10.1%)
<i>Customer-orientation</i>	10	0.486	220	3915	17.80	30	<i>Journal of Business Ethics</i> (15.0%); <i>Corporate Social Responsibility and Environmental Management</i> (10.5%); <i>Sustainability</i> (10.5%)
<i>Stakeholders management & risk reduction</i>	10	0.590	97	1159	11.95	19	<i>Journal of Business Ethics</i> (13.4%); <i>Corporate Social Responsibility and Environmental Management</i> (12.4%); <i>Sustainability</i> (11.3%)

Observation 2.1. Sustainable banking as a research field is built around three conceptual domains, Ethical Foundations; Financial Products; and Business-Case, domains that embed nine differentiated and dominant clusters.

Observation 2.2. The primary themes within sustainable banking literature have shifted over time from customer-centric issues toward an emphasis on banks' contributions to environmental care.

Observation 2.3. In particular to Finance mainstream journals, we expect an increase in sustainable banking publications (in line with observation 1.1), specifically in the clusters of 'Microfinance', and 'SRI and green banking'.

3.3. Links across domains and clusters: toward the convergence of instrumental and ethical perspectives in sustainable banking

The centrality and relative importance of each domain and cluster configuring our framework is determined, beyond its frequency or occurrence, by its connection among themes and network creation (Fig. 8). "Customer-orientation" appears to be the central theme, as it is the most connected among the different clusters (351 links). This theme shows strong links with "Financial performance and innovation" and with "Organizational ethics-focus," revealing, respectively, the importance of the instrumental or business-case approach in sustainable banking literature (customers' perceptions create social capital) and that ethics can be synergistic with profitability (Arend, 2013).

"Microfinance" and "Financial inclusion" conform a macro-cluster (as they share 106 documents, the most intense link in the map) that pertains to Domain (B) "Sustainable Products". Fig. 8 shows the links between these clusters and "Customer-orientation" from Domain (C) "Business-Case". This suggests that, although financial services specifically oriented toward sustainable development may not play a strong role monetarily, they can enhance performance indirectly through customer perception, building a better image (Weber, 2005). From a stakeholder perspective, Domain (B) is concerned about external stakeholders, influencing systemic change specifically in developing countries, in contrast to Domains (A) and (C), where the keywords refer to primary stakeholders. The links across domains show a connection between "other-concerns" or ethical motivation and the instrumental purposes behind primary stakeholder management (Barnett, 2019).

Observation 3.1. Instrumental and ethical motivations increasingly converge in the literature on sustainable banking, revealing the synergistic fit between a customer-orientation and a financial-performance purpose with an ethics focus.

Observation 3.2. Microfinance and financial inclusion themes conform a macro-cluster that is related to external stakeholders and, thus, concerned about the normative or ethical aspects of sustainable banking.

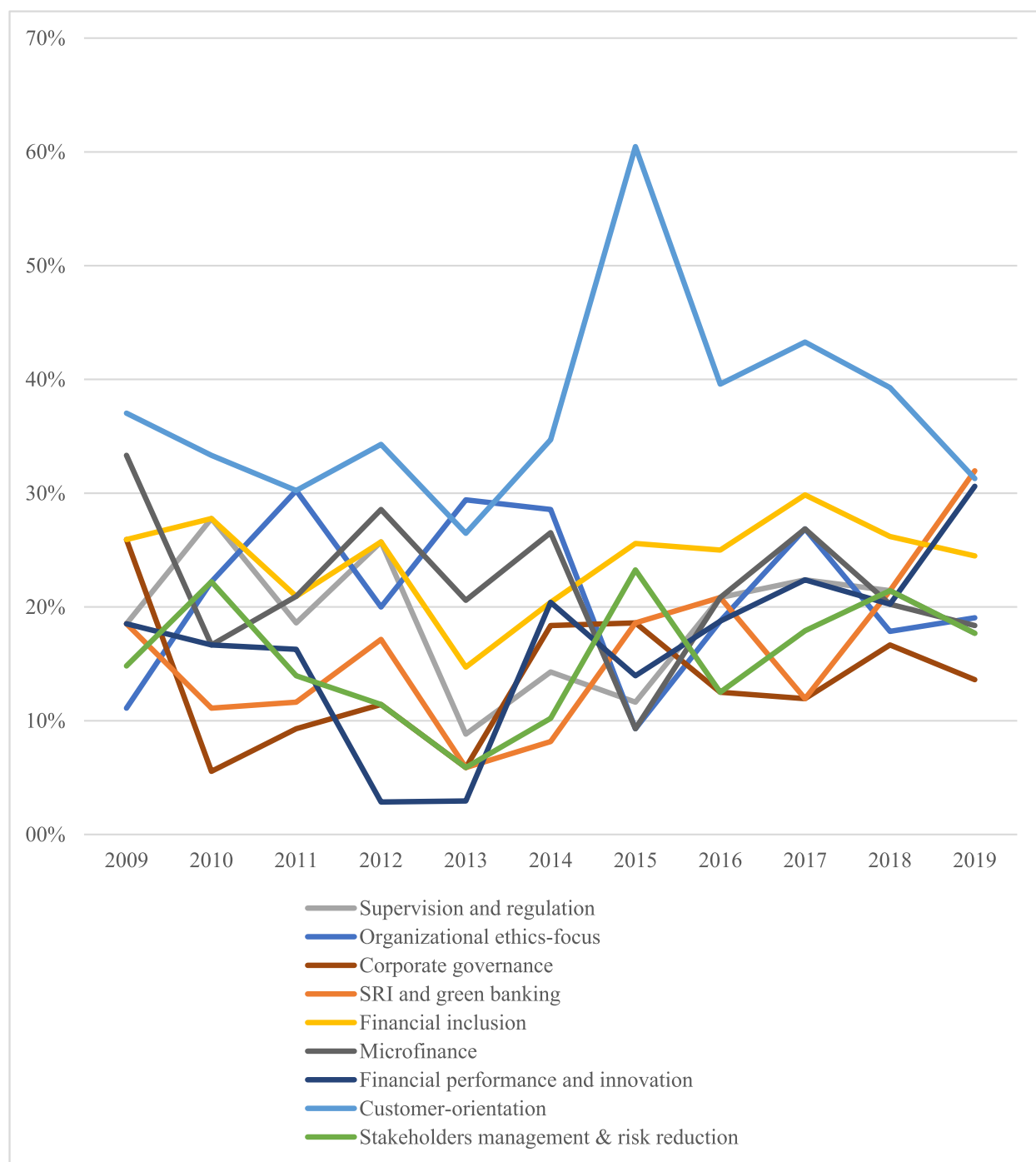


Fig. 7. Evolution in number of articles across clusters (as% of total articles in sustainable banking).

4. Conclusions

Our empirical findings provide a clear picture of the evolution in sustainable banking literature over time and across categories and journals. We suggest an integrative framework that organizes the diverse literature around nine different clusters embedded in three key domains: Ethical Foundations, Sustainable Products, and Business-Case. The framework's contribution to the sustainable banking literature is twofold: i) it systematizes existing research around core constructs -domains and clusters-, which allow a more granular literature analysis, and, ii) it may guide future sustainable banking literature reviews, since it is universal, comprehensive, draws on public data, and it offers straightforward applicability due to its parsimony and to the comparability inter and intra clusters. Based on

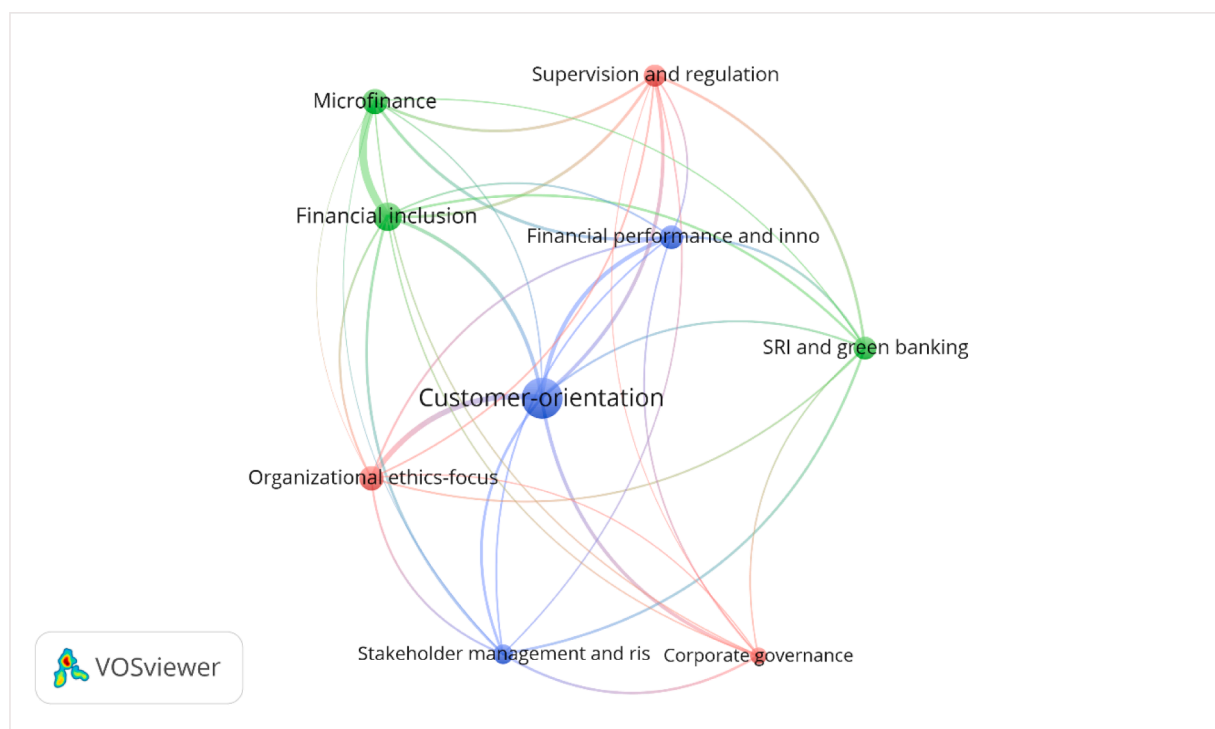


Fig. 8. Connectivity among thematic clusters in sustainable banking.

the integrative framework, we draw eight observations that capture current trends and expected development of this literature, summarized as follows.

First, the concept of sustainable banking has attracted the attention of scholars over time exponentially (Birindelli et al., 2015; Brogi and Lagasio, 2019; Forcadell and Aracil, 2017a; Forcadell et al., 2020b; Ruiz et al., 2014; San-José et al., 2011; Scholtens, 2009; Weber, 2005; Yip and Bocken, 2018). Global shocks such as the COVID-19 pandemic may force the pace of business change toward enhanced sustainability, in parallel to an increased research effort in this area.

Second, mainstream finance journals are not as active in the sustainable banking field as are journals in the ethics or management categories, with some exceptions (Forgione and Migliardo, 2020). We expect areas related to SRI, green finance, or social bonds to benefit from coverage in finance journals.

Third, specific research themes have evolved from a customer-centric perspective toward an external approach that is concerned about the effects of banks on sustainable development and, particularly, about their indirect environmental impact (Scholtens, 2009). Academic interest in environmental and green banking is likely to continue to increase along with recent regulatory developments such as the EU Taxonomy.

Fourth, the low relative weight of the Ethical Foundations domain reveals the need to approach sustainable banking beyond the business case for sustainability, which is a “weak sustainability” (Landrum and Oshowski, 2018). In this respect, our conceptual framework can serve as a guide for evaluating the contributions of banks toward the achievement of the SDG. The critical role of banks in redirecting funds to promote sustainable development (Avrampou et al., 2019; Forcadell and Aracil, 2017b) may be evaluated by benchmarking banks’ behavior against the framework’s different domains: the underlying ethical stance, the specific financial products, and the instrumentality of sustainable banking. To ensure congruence between banks’ performance and SDG progress, banks’ ethical stance should underlie their products. This can be achieved by developing financial solutions for low-income clients or to mitigate environmental impacts, thereby reconciling the instrumental and ethical perspectives (Barnett, 2019) or *doing well by doing good* in the banking sector.

Author statement

Authors declare that all of them have contributed in the same way.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.frl.2021.101932](https://doi.org/10.1016/j.frl.2021.101932).

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