

“A Decade of Sustainable Marketing: A Bibliometric review of Key Concepts and Influences”

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ARTICLE INFO

Received: 30 Dec 2024

Revised: 12 Feb 2025

Accepted: 26 Feb 2025

ABSTRACT

Introduction: During the past decade, sustainable marketing has reached the core of corporate responsibility, behaviour and environmental stewardship. In fact, there is a great amount of academic research focused on this subject, indeed, as the importance of brand on sustainability and market through a brand and green marketing are more and more required.

Objectives: The purpose of this study is to produce a holistic literature review across sustainable marketing research over the past decade. The study analyses key contribution, emerging themes and influential work in sustainable marketing as a research domain in order to achieve this.

Methods: According to this study, Scopus is the main database that the bibliometric review is based on, because it covers extensive amount of high quality, peer reviewed literature in different disciplines. This review utilised the tools like, evaluation of Citation networks, co-authorship patterns and subject advancement conducted using *VOSviewer* and *Bibliometrix R* software.

Results: This article offers a bird's eye view of the evolution of sustainable marketing research within the period of 2006 till February 2025, developing the bibliometric study for sharing the key trends, dominant thematic areas and influential authors in the research. The results show how academic interest in the sustainability driven marketing strategy is going to grow and how environmental, social and ethical parameters are becoming relevant for businesses. Intellectual structures of sustainable marketing practice are mapped into a whole that is characterized by interdisciplinary nature, and has strong linkages with corporate social responsibility, green consumer behavior, and digital transformation. Additionally, the study ranks leading journals and prolific scholars working on sustainable marketing that serves as a confirmation that the sustainable marketing is now a consolidated research domain.

Conclusions: This research theoretically contributes to an understanding of sustainable marketing through integration of triple bottom line sustainability with stakeholder theory and a consumer behaviour model to explain how companies create long term value. The research showed actually how marketers and policymakers can design more effective actions for brand loyalty and improve the corporate image that are sustainability driven.

Keywords: Sustainable Marketing, Green Advertising; Ethical Branding; Corporate Social Responsibility; Consumer Behaviour, Stakeholder Theory, Triple Bottom Line, Brand Loyalty.

INTRODUCTION

Multiple theoretical frameworks explain different dimensions of sustainability focused business practices through their motivational aspects and strategic approaches and effects on these practices. According to Stakeholder Theory

(Freeman, 1984) businesses must fulfill obligations which benefit their customers and workers together with their financial stakeholders and the general community. TBL (Elkington, 1997) establishes Triple Bottom Line which defines corporate success through environmental, social and economic standards. The Theory of Planned Behavior (TPB) (Ajzen, 1991) provides repeated use in sustainable consumer behavior research to study ethical purchasing effects influenced by attitudes combined with social norms and perceived control. Corporations tend to adopt sustainable marketing strategy based on Environmental Social and Governance (ESG) initiatives due to regulatory pressure and industry normative influences which resembles Institutional Theory (DiMaggio & Powell, 1983).

A competitive advantage can be achieved through unique sustainable and green resources such as green technologies and sustainable supply chains and renowned brands according to the Resource Based View (Barney, 1991). The Diffusion of Innovation Theory created by Rogers (1962) shows how business entities with consumers accept sustainable product types together with marketing practices operating under the circular economy framework and eco-innovations. Through these theoretical frameworks we can construct a better understanding of sustainable marketing development during the past decade because they define how academic research intertwines with corporate business practices. The study evaluates these theories utilized in sustainable marketing research to determine their contributions as well as potential research areas for present and future examinations.

The field of sustainable marketing research contains vast literature yet we lack precise information about fundamental changes and primary ideas alongside the influence of significant studies on the domain throughout the past decade. Most sustainable marketing research examines individual aspects such as consumer green purchasing motivation with no focus on comprehensive insights about brand sustainability. The studies typically hide under broad general terms and lack both an overarching analysis and data-driven research of the complete field.

Sustainable research topics covering company perspectives and consumer decision-making processes have existed since 2006 but no major changes have occurred in these areas regarding influential researchers or publications or the development of new promising fields. The questions can be answered through data analysis since it reveals keyword relationships and author collaboration and identifies common research topics. The main goal of this study is to address this gap by performing an extensive evaluation of sustainable marketing research spanning from 2006 to 2025. We will focus on research papers published in Scopus databases along with two data assessment applications VOSviewer and Bibliometrix. We expect this data will allow us to identify both current field research trends and the theories which guide its direction and the movement of future research. These results will benefit researchers while providing value to businesses and governmental personnel.

The research focuses on performing a detailed review of sustainable marketing investigations throughout ten years. The investigation uses key contribution analysis together with emerging themes study and influential work assessment to evaluate sustainable marketing research as a field. The analysis examines how photographs, assumptions, and interdisciplinary viewpoints shape this field of study. This review discusses the literature gaps and makes contributions toward building sustainable marketing knowledge for the future research agenda. Through examining the issue this analysis grants direction to academics and professionals working with policymakers who wish to embed sustainability elements into their marketing strategies.

Great implications arise from this research for scholarly communities, business organizations as well as policy planners. The research provides organized content which describes essential contributions while identifying core themes of development for sustainable marketing researchers along with describing established frameworks and methods for future study possibilities. Retail companies can develop sustainable marketing strategies based on these findings to build better brand image while winning customer trust and generating lasting profits through established sustainability methods. Policymakers may use the gathered information as the basis for developing guidelines that promote balanced business innovation for corporate sustainability and ethical consumer engagement with responsible advertising. This research creates a foundation for three areas: sustainable marketing theory development and responsible business practices execution and sustainable marketplace promotion policy evaluation.

The tested results of this study help researchers to identify vital scholars along with past theoretical findings and proposed research directions. The researchers carried out a bibliometric study within this context to answer the following research questions:

RQ1: What are the current trends in Sustainable marketing publications and growth trajectory with respect to time, journals, authors, and affiliated nations?

RQ2: Describe the conceptual framework of Sustainable marketing research, its evolution throughout time, and the most recent advancements in this field of study.

OBJECTIVE

The purpose of this study is to produce a holistic literature review across sustainable marketing research over the past decade. The study analyses key contribution, emerging themes and influential work in sustainable marketing as a research domain in order to achieve this.

LITERATURE REVIEW

Businesses together with academic organizations display growing concern about sustainable marketing because stakeholders recognize the importance of merging environmental and social considerations into organizational activities. The traditional marketing models built around profitability conflict with sustainability requirements and environmental as well as social needs (Kotler, 2011). The paper examines sustainable marketing relevance through industry and academic perspectives while studying its foundational concepts combined with strategic implications and theoretical effects for marketing study and practice.

2.1 Sustainable marketing

Sustainable marketing emerges as the core element of responsible business practice because it transcended its optional status according to Belz & Peattie (2012). Organizations can use sustainable marketing strategies to resolve ecological and social issues in their planning processes (Leonidou et al., 2013). Modern businesses must prove their support for sustainability measures because environmental challenges and social inequalities keep growing worldwide. Through sustainable marketing companies find ways to reach target consumers who make environmentally-conscious buying decisions (Ottman, 2011). The connection requires companies to market products and practices while promoting brand values which support sustainability principles.

The main advantage of sustainable marketing lies in its ability to improve brand image as identified by Gordon et al. (2011). Real commitment toward sustainability helps businesses accumulate loyal consumers thus creating a competitive market position (Kumar et al., 2013). Sustainable marketing initiatives activate profits through new market acquisition while driving business growth. Higher than ever consumer demands show that people actively search for businesses implementing sustainable approaches (White et al., 2019). The implementation of sustainable marketing reaches two important targets by serving both human welfare and economic profitability.

The academic field benefits from sustainable marketing through interdisciplinary research development which shapes marketing education methods as described by Peattie and Belz (2010). People conduct contemporary sustainability research in separate academic fields such as philosophy and economics in addition to social sciences and business strategy. Sustainable marketing enables researchers to connect divergent perspectives so they can handle complex issues about production and consumption and environmental outcomes (Sheth & Parvatiyar, 2021).

Sustainable marketing shapes educational marketing by establishing the essential requirement for sustainability content in educational programs (Lim, 2016). The current educational approach to marketing often fails to give students sufficient tools to solve modern environmental and social issues which face the twenty-first century. Marketing education at academic institutions becomes stronger when sustainability concepts are integrated because students receive both the required knowledge and abilities to champion sustainable business activities and responsible consumerism (McDonagh & Prothero, 2014).

The development of marketing theory receives benefit from sustainable marketing through the challenging of traditional market theories and creation of alternative analytical frameworks (Cronin et al., 2011). Companies implementing sustainable market orientation need to develop strategies that engage customers' market-oriented preferences as well as environmental and social stakeholder interests (Hult, 2011). The marketing philosophy of a company must expand its market orientation model to include ecological and social restrictions as integral elements.

2.2 Consumer Behavior and Corporate Reputation

Consumer behavior determines the implementation of sustainable marketing practices by businesses. The influence of consumer attitudes towards sustainable consumption as well as their purchase intentions and brand perceptions has been analyzed in multiple research studies (Leonidou et al., 2013; Kumar & Polonsky, 2021). Sustainability-related values of consumers now drive their brand selection preferences according to White et al. (2019). Research mainly investigates sustainable consumption and sustainable marketing practices in developed economies of the United States but fails to capture consumer behavior patterns in emerging market regions (Liu et al., 2022).

Sustainability marketing depends heavily on corporate reputation as an essential variable. Brand loyalty together with credibility strongly relies upon CSR initiatives (Bhattacharya & Sen, 2021). The active use of sustainability branding in businesses exists despite insufficient research on how digital platforms influence corporate reputation through sustainability messaging (Carroll & Shabana, 2010).

2.3 Green Marketing and Social Marketing Strategies

The practice of green marketing aims to implement environmentally friendly procedures while developing innovative products and establishing sustainable usage methods (Peattie & Crane, 2005). Social marketing, on the other hand, focuses on behavior change for social and environmental good (Kotler, 2011). Organizations combine these strategies in their corporate plans according to Leonidou et al. (2013).

Research on green marketing continues to grow yet effective evaluations for different industries and cultural settings still need development (Verma & Singh, 2023). The existing body of literature shows an absence of research based on sustainability-related consumer attitude evolution and extensive assessments of the greenwashing phenomenon (Lim, 2020).

2.4 Sustainable Development and Commerce

Current academic research greatly focuses on sustainable development especially when investigating commercial operations and supply chain sustainability (Liu et al., 2022). Research investigates how sustainable development affects consumer conduct while establishing business as key actors toward sustainability achievements (Carroll & Shabana, 2010). Verma and Singh (2023) describe research on sustainable e-commerce together with blockchain for sustainability and consumer education in green commerce as underdeveloped areas.

2.5 Corporate Social Responsibility and Ethical Branding

CSR functions as a primary element promoting sustainable marketing. The findings demonstrate that CSR initiatives build consumer trust while establishing company legitimacy according to Bhattacharya and Sen (2021). Integrity combined with sustainability pledges defines ethical branding as a new trend in sustainable marketing practices according to Carroll and Shabana (2010).

Research on CSR shows significant gaps because empirical studies failed to determine the direct relationship between CSR initiatives and consumer behavior changes and brand equity growth (Leonidou et al., 2013). The understanding of CSR-driven marketing effects on emerging markets requires further investigation according to Liu et al. (2022).

2.6 Innovation and Sustainable Tourism Marketing

The advancement of sustainable marketing needs innovation as an essential driving force especially when applied to tourism marketing. Smart tourism alongside eco-tourism marketing have risen in importance because they emphasize sustainability-based destination branding (Gretzel et al., 2020). Existing research publications on digital transformation effects in sustainable tourism marketing and consumer involvement remain scarce according to Hall (2021).

2.7 Social Media and Digital Sustainability Marketing

The marketing of sustainable products has become more effective through social media which boosts brand-to-consumer interactions (Kaplan & Haenlein, 2010). Social media influencers and digital marketing strategies use their platforms to spread sustainability messages according to studies by Tuten & Solomon (2021). Research does not fully

address the capabilities of artificial intelligence within sustainability campaigns along with digital storytelling in sustainability marketing (Verma & Singh, 2023).

2.8 Conceptual Frameworks and Strategies

Several conceptual frameworks and strategies underpin sustainable marketing. Through green marketing organizations develop environment-friendly items alongside establishing sustainability as a fundamental aspect of their business procedures and advertising operations (Peattie, 1995). By harnessing marketing techniques social marketing stimulates environmental behavior among people and companies together with decision-makers and conducts analyses of commercial sales effects on sustainability (Kotler & Lee, 2008). The application of critical marketing takes a critical theory foundation to evaluate marketing theories as well as principles and techniques according to Tadjewski (2010). A combination of specialized branches promotes a complete sustainable marketing model that connects all pieces together.

Businesses need to merge sustainable marketing strategies within their operational framework for successful implementation of sustainable marketing. The strategies need to satisfy consumer demands without damaging the business value. A business can reach its tactical objectives both financially and create a sustainable future through complete sustainable marketing strategies.

METHODOLOGY

Researchers use different methods during literature reviews to structure previous findings while understanding the related results. Bibliometrics represents the leading and most contemporary solution to create an easy, structured and automated approach for literature review analysis which relies on scientific methodologies or statistical methods (Broadus, 1987; Diodato, 1994; Pritchard, 1969). The R tool helps bibliometrics create significant objective assessments for data collection that Aria & Cuccurullo (2017) describe as currently available. After providing wide perspective on research trends in specific fields the bibliometric approach enables researchers to assess primary authors alongside academic institutions as well as nations (Farrukh et al., 2020; Zupic & Cater, 2015). Bibliometric methods currently serve research purposes to track the development of Sustainable marketing literature. Statistical techniques help us determine the future direction of published research while showing academic relationships across multiple domains.

3.1 Gathering and extracting data

Bibliometric study requires researchers to acquire their initial raw data consisting of authors, nations and references and citation counts (Carvalho et al., 2017). Scopus maintained by Elsevier served as one of the biggest data collections for this study. The study obtained data between 2006 and 2025 for performing its research, which was conducted in February 2025. The impact evaluation capabilities of Scopus rely on three aspects including citation metrics as well as author networks alongside institutional affiliations so researchers can conduct strong data-focused assessments of their field. This study uses Scopus as its research tool to provide an extensive and discipline-wide analysis capability that improves both its data accuracy and bibliometric findings' validity.

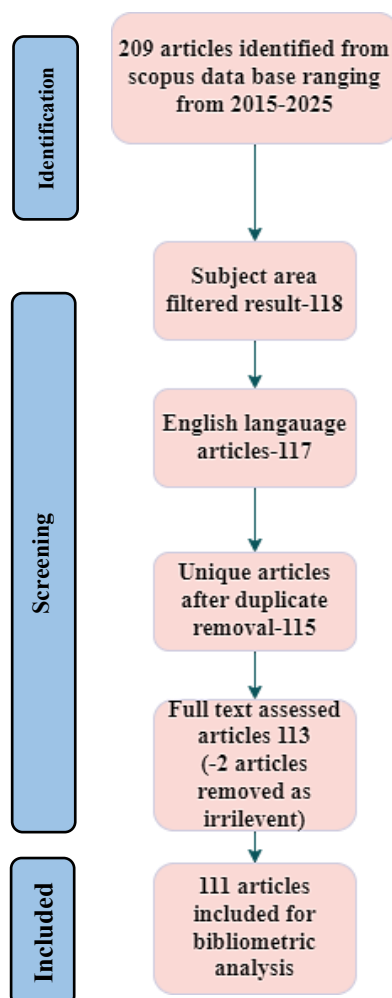
3.1.1 Search Query

Systematic research success depended on the construction of a search query which integrated sustainable marketing terminology with various appropriate keywords. The bibliographic study relies on the following keywords: Sustainability Marketing, Sustainability, Sustainable Development, Marketing, Consumption Behavior, Green Marketing, Sustainable Marketing, Commerce, Corporate Social Responsibility, Sustainable Consumption, Consumer Behavior, Consumer Behaviour, Corporate Reputation, Literature Review, Marketing Strategy, Purchase Intention, Social Marketing, Social Media, Sustainability Marketing Commitment, and Sustainability Marketing Strategy. The examined research field in sustainable marketing required this set of selected terminology to address all possible complementary areas including consumer actions together with company sustainability practices as well as marketing approaches alongside contemporary social and green marketing concepts. The research request ran within Scopus database with Boolean logic (AND and OR operators) to select high-quality peer-reviewed publications. The chosen method enables researchers to recognize pivotal works which guide new research paths and interdisciplinarity along with building a suitable framework for the bibliometric review.

3.1.2 Inclusion/Exclusion Criteria

A comprehensive framework consisting of specific inclusion and exclusion criteria was used to guarantee the quality and applicability of the bibliometric analysis. Only articles related to sustainability marketing made it through the search query which operated within the Scopus database. Research only accepted peer-reviewed journal articles through the LIMIT-TO (DOCTYPE, "ar") filter to maintain academic standards although conference papers together with book chapters, and other types of documents were excluded. To maintain focus on sustainable marketing research from an interdisciplinary perspective this study selected the business (BUSI) and social sciences (SOCJ) and economics (ECON) together with arts and humanities (ARTS) subject areas. A language limitation of "English" Publication (LIMIT-TO (LANGUAGE, "English")) was established to increase the accessibility as well as the comparability of research findings. A specific set of exactly matched keywords related to sustainability marketing helped narrow down the study results which included Sustainable Development, Consumption Behavior, Green Marketing, Sustainable Consumption, Consumer Behavior, Sustainability Marketing Strategy, Sustainability Marketing Commitment, Marketing Strategy, Digital Marketing, and Marketing Education. The methodology included procedures which brought together most significant research findings while excluding studies of less significance or minimal relevance to the topic.

Fig. No.1 PRISMA flow diagram for new systematic reviews



3.2 Bibliometric Techniques Used

Multiple analytical techniques served for conducting a well-structured extensive bibliometric review. A systematic review and meta-analysis followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework which provided transparent methods for article selection and ensured research results could be

reproduced. A performance analysis method evaluated sustainable marketing research growth by studying publication trends and examining leading journals as well as most-cited papers. The program VOSviewer carried out co-word analysis to show how keywords appear together while identifying main conceptual relationships between research topics. The research used co-authorship network analysis as a tool to discover important academic researchers while revealing the patterns of scholarly partnership connections. The analysis of cited works using co-citation methods allowed us to identify fundamental sustainable marketing literature which forms the basis of scholarly discussions. These bibliometric research methods create a data-based methodology to analyze research impact, emerging academic trends as well as future perspective growth in sustainable marketing.

RESULTS AND DISCUSSION

4.1. Descriptive or Performance Analysis.

A bibliometric study exists within this section utilizing multiple performance metrics. The following section responds to our research inquiry that was originally stated. We provide our answer to the original research inquiry at this point.

RQ1: What are the current trends in Sustainable marketing publications and growth trajectory with respect to time, journals, authors, and affiliated nations?

4.1.1 Article evolution on sustainable marketing.

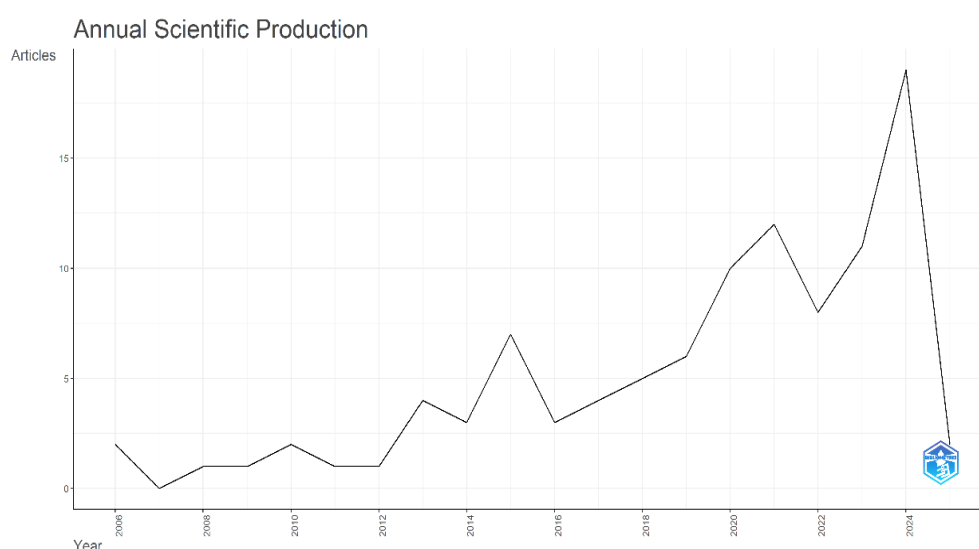


Fig.No.2 Changing course of sustainable marketing research. Source: authors own compilation using Bibliometrix R

Fig.No.1 presents an interesting story of the changing course of sustainable marketing research in the past two decades. This is necessary in order to understand the field's intellectual development in the last four decades, which is the focus of this work: several key trends emerge.

During Early Stages of Growth (from 2006 to 2012), the interest in sustainable marketing has been increasing steadily but still in its early stages. The publications began a slow rise, and this was indicative that the field was becoming recognized in the fact that there needs to be an integration of sustainability into marketing theory and practice. This most likely was the foundational period when core concepts and frameworks were set up for future research.

Accelerated Expansion (2013 – 2023): The start of a period of accelerated expansion occurred around 2013. The number of publications of each year rose enormously showing a tremendous rise in the scholarly debate on sustainable marketing. Finally, this expansion could have been a result of the following reasons: The rising awareness of environmental and social matters of the society, the changing preferences of the buyers, the enhancements in the sustainable business practices and the increased funds seeking for related researches.

The growth is likely to peak and shift (2023-2024) on the curve of publications, where 2023 suggests that this rapid growth phase is on the verge of being complete. But then how can the value drop in 2024 (and further in 2026 as projected) happen? Possible explanations include: a) Inability to Provide Realtime Data: Bibliometric databases are slow to index recent publications, and therefore provide the coverage of the recent dissemination of research in an unfeasible manner. It may be an artifact of the fact that these recent years have been under collected and the true trend is still rising. b) Methodological Shift: If there is, then we are seeing a methodological shift, in which researchers are branching into new territory or are working on interdisciplinary research whose publication might not be caught yet by traditional publication counts. c) It may also be that in some areas of the field, it has become saturated, and now is simply a natural refinement or concentration on more subtle research questions rather than raw volume.

4.1.2 Most Relevant Authors

The most relevant authors in number of documents published and fractional contributions are highlighted in this section. In total it can be seen that each of the authors: Ballantine PW, Kelleci A, Kemper JA and Kumar V has three documents, with Kelleci A gunfire due to the highest fractionalized contribution (2.5). Opposite to that, Kumar V (0.9167) and Chou S-F (0.3429) have less fractionalized scores that mean that they made less contributions or they worked with more co authors. For example, Chou S F, Font X, Ghasemi K, Hall CM, Horng JS, and Jai TM-C are secondary contributors with two documents each where the fractionalized scores are not necessarily equivalent in terms of the measure of participation. Kelleci A is the overall most dominant author, followed by others, who play different levels of contribution, which shows that the roles are not only leads in the domain, yet it is a mixture of both.

Fig.No.3 Most Relevant Authors of sustainable marketing research. Source: authors own compilation using Bibliometrix R



4.1.3 Most global cited documents

The publication with the highest scores in the bibliometric analysis of the most globally cited documents is indicative of key publications' impact and the importance related to them. Thus, Business Strategy and the Environment by Sammer K (2006) was Top Cited Article with 296 citations, followed by Journal of Marketing Management by McDonagh P (2014) as a Top Cited Article with 263 citations, implies enormous foundation. Yet, in terms of citation rate per year and/ or Normalized TC, Kemper JA (2019), Journal of Marketing Management is remarkable: it has 165 citations, the TC per Year is 23.57, and the highest Normalized TC (3.52) suggests that it is a very current and very fast growing article. Whittaker L (2021) in International Journal of Information Management has 100 citations with high TC per Year of 20 and the highest Normalized TC (4.12) reflecting strong influence of late years.

Another notable work is: Rettie R (2012); shown to have consistency in the impact of 132 citations, Lim WM (2016); shown to have consistency in the impact of 131 citations, and Dermody J (2015); shown to have consistency in the impact of 119 citations. The papers by McDonald S (2015) and Sheth JN (2015) with 118 citations each serve to show their relevance to marketing management. The fact that these works have high citation counts indicates they were obviously important in their subfield and beyond, but a high TC per Year and a high Normalized TC for more recent papers (e.g., Kemper JA, Whittaker L, and McDonagh P) signals of new and influential trends of research. While emphasizing seminal papers' longevity, fast growing contemporary research is emphasized as well.

Table-1: Most global cited documents- Source: authors own compilation using Bibliometrix R

Paper	DOI	Total Citations	TC per Year	Normalized TC
SAMMER K, 2006, BUS STRATEGY ENVIRON	10.1002/bse.522	296	14.8	1.53367876
MCDONAGH P, 2014, J MARK MANAGE	10.1080/0267257X.2014.943263	263	21.9166667	2.77816901
KEMPER JA, 2019, J MARK MANAGE	10.1080/0267257X.2019.1573845	165	23.5714286	3.52313167
RETTIE R, 2012, J MARK MANAGE	10.1080/0267257X.2012.658840	132	9.42857143	1
LIM WM, 2016, MARK THEORY	10.1177/1470593115609796	131	13.1	2.25862069
DERMODY J, 2015, J MARK MANAGE	10.1080/0267257X.2015.1061039	119	10.8181818	1.81877729
MCDONALD S, 2015, J MARK MANAGE	10.1080/0267257X.2015.1059352	118	10.7272727	1.80349345
SHETH JN, 2015, IND MARK MANAGE	10.1016/j.indmarman.2015.06.002	118	10.7272727	1.80349345
WHITTAKER L, 2021, INT J INF MANAGE	10.1016/j.ijinfomgt.2020.102305	100	20	4.12371134

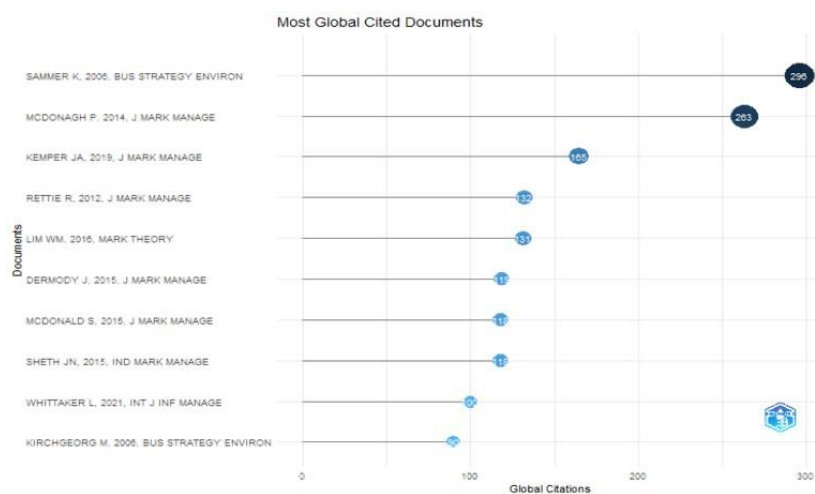


Fig.-4: Most global cited documents- Source: authors own compilation using Bibliometrix R

4.1.4. Journal Contribution

Bibliometric analysis of the most relevant sources shows that the Journal of Marketing Management ranks first with 10 articles, revealing the importance of the journal in dissemination of research in marketing area. Second, sustainability (Switzerland) (8) and Business Strategy and the Environment (7) are closely followed reflecting the importance management community placed on sustainability and strategic business practices. These other notable sources, the Asia Pacific Journal of Marketing and Logistics, Industrial Marketing Management, and the Journal of Cleaner Production (and each contains 3 articles), are spread across the discussions of logistics, industrial marketing, and environmental concerns. Also, Bingley's Corporate Governance, in addition to the Journal of Business Research and the Journal of Macromarketing each with 2 articles, focus on areas of governance, business strategy, and macroeconomic. The expansion of sources, particularly marketing focused journals along with the emergence of a significant number of interdisciplinary sources points the attention towards growing trends in contemporary research of sustainability, corporate responsibility, and globalized marketing.

Table-2: Journal Contribution - Source: authors own compilation using Bibliometrix R

Sources	Articles
JOURNAL OF MARKETING MANAGEMENT	10
SUSTAINABILITY (SWITZERLAND)	8
BUSINESS STRATEGY AND THE ENVIRONMENT	7
ASIA PACIFIC JOURNAL OF MARKETING AND LOGISTICS	3
INDUSTRIAL MARKETING MANAGEMENT	3
JOURNAL OF CLEANER PRODUCTION	3
CORPORATE GOVERNANCE (BINGLEY)	2
JOURNAL OF BUSINESS RESEARCH	2
JOURNAL OF MACROMARKETING	2

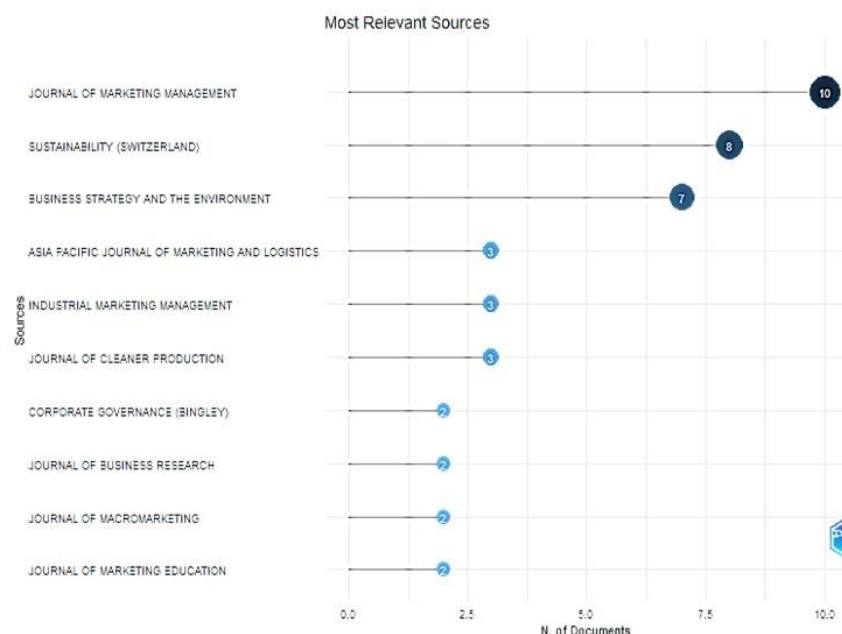


Fig.-5: Journal Contribution - Source: authors own compilation using Bibliometrix R

4.1.5 Country Scientific Production

The bibliometric analysis of the country scientific production portrays the later contributors to the research output. Considering the number of useful publications, the USA (43) is found to be the most dominant contributor, followed by China (30), India (26), and the UK (26), to name but a few, which show a powerful academic influence on the industry. Austria (2), Australia (19) and New Zealand (17) also have stronger research influence compared to the other nations, indicative of the growing research influence in the Asia-Pacific region. Germany (16) and Canada (10) continuously play, with Portugal (8) also making a noticeable European count.

The world map indicates darker shades correspond to higher scientific output and USA, China and India for instance stand out as having the most intense contributions. This corresponds to the global dominance of research in countries of English-speaking tradition, including the USA, UK, Australia, Canada, New Zealand and similar. China and India's expansion in higher education and research is reflected by their strong representation.

Overall there seems to be an increase in contribution of emerging economics (e.g. China and India) to research output, but developed economics still dominate research output. Findings show that scientifically research landscape is a globalized research landscape; Western and Asian countries share contemporary scientific discourse that is about sustainability, marketing, strategic business studies, etc.

Country Scientific Production

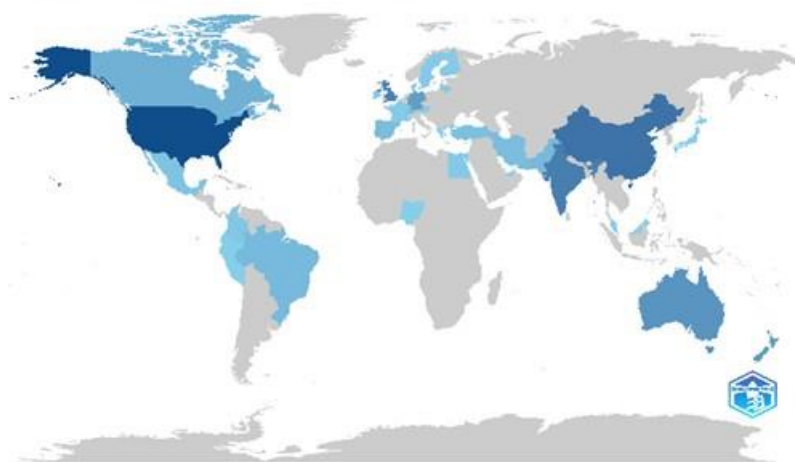


Fig.-6: Country Scientific Production - Source: authors own compilation using Bibliometrix R

Table- 3: Country Scientific Production - Source: authors own compilation

S.No.	Country	Freq.
1	USA	43
2	CHINA	30
3	INDIA	26
4	UK	26
5	AUSTRALIA	19
6	NEW ZEALAND	17
7	GERMANY	16
8	CANADA	10
9	PORTUGAL	8
10	BRAZIL	7

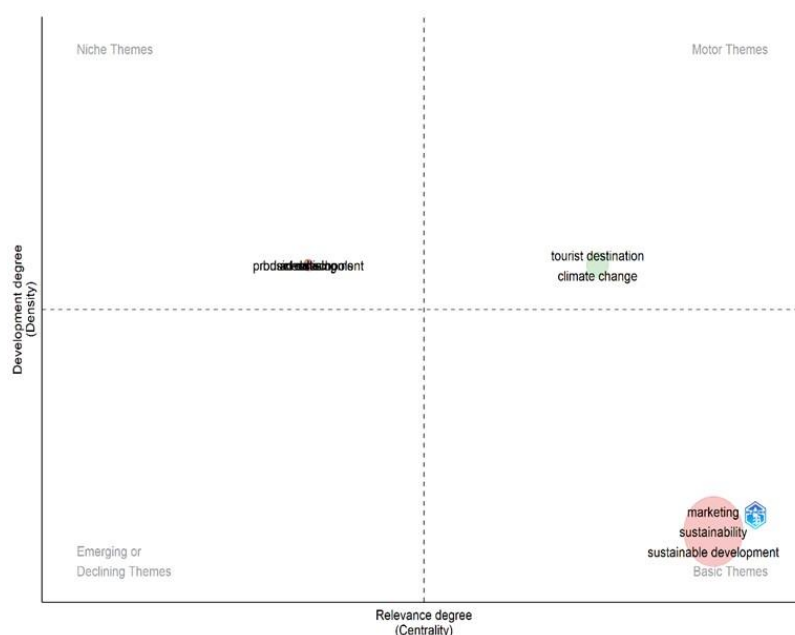
- **Green Cluster:** Identifies sustainable energy, digital marketing, commerce and business school as sustainable industry, education, and technological advances focusing on sustainability.
- **Orange Cluster:** It draws social media, knowledge management, corporate strategy, and ISI mappings into business; i.e., it depicts a business perspective of sustainability and digital transformation.
- **Purple Cluster:** Focuses on climate change, motivations, tourist destinations, and theoretical research, which bring about the link between sustainability and tourism and environmental issues.

The co-occurrence network shows that sustainability marketing is a multidimensional field of research and research in this area is strongly connected to corporate strategies, consumer behaviour, branding, digital marketing and sustainable consumption. The existence of business schools, as the degree of industrial performance, as well as financial performance indicate that sustainability research is not merely a theoretical issue, yet a business and economic issue. Such bibliometric analysis highlights a growing importance of sustainability in marketing, social responsibility and business innovation, and suggests avenues for future research.

4.2.3 The thematic map

The thematic map gives a good bibliometric analysis of the themes of sustainability and marketing-related themes. It is divided into four quadrants on the basis of Relevance (Centrality) and Development Degree (Density):

1. **Lower-left (Emerging or Declining Themes):** Empty Quadrant o The recipe list is empty denoting that relevant or development existed in every one of the recognized topics within the field.
2. **Upper-left (Niche Themes):** This has clusters such as business schools, product development, sales, and advertising.
 - These are topics with high density but low centrality, i.e. the topics are well developed in their discipline but not in wider ones.
 - They are specialised topics which might ever integrate with mainstream debates in terms of sustainability marketing.
3. **Upper-right (Motor Themes):**
 - ‘Tourist destination’ and ‘climate change’ fall under this quadrant.
 - These themes are highly central and highly developed and, thus, are appropriately constructed and crucial drivers of research in sustainability and marketing.
 - This indicates that those topics are very much alive and necessary in tourism and its relation to climate change.
4. **Lower-right (Basic Themes):**
 - This quadrant comprises two words: “marketing,” “sustainability,” and “sustainable development.”
 - These have high centrality but low density which means they are central themes tied to several other themes but still uncommon.
 - As basic themes, they indicate the position in which they are major subjects of sustainability marketing research.

Fig.No.8- The thematic map, Source: authors own compilation using *Bibliometrix R*Table -4: The thematic map Clusters, Source: authors own compilation using *Bibliometrix R*

Cluster	CallonCentrality	CallonDensity	RankCentrality	RankDensity	ClusterFrequency
marketing	1.421	40.459	6	1	83
business schools	0	50	2.5	4	2
tourist destination	0.333	50	5	4	5
sales	0	50	2.5	4	2
product development	0	50	2.5	4	2
advertising	0	50	2.5	4	2

The theme that is the most interconnected in sustainability research is marketing, with the highest Callon Centrality (1.421) and high frequency (83). It possesses a moderate Callon Density (40.459) however, a broad but not a deeply developed one. The Callon Centrality of Tourist Destination (0.333) is low, whereas the Callon Density (50) is high, and therefore, Tourist Destination is a motor theme in driving sustainability marketing research. Despite the high density, the Business Schools, Sales, Product Development and Advertising have zero Callon Centrality, i.e., they are isolated topics in the research landscape.

But it further develops that Marketing and Sustainability are key fundamental themes that connect many areas of research. Sustainability marketing research is driven by ‘tourism’ and ‘climate change’. Sales, Business Schools, Product Development and Advertising are well developed in their niche but poorly connected to other areas of the research network. No of the themes are emerging or declining which means that all topics which analyzed hold a place in the field.

This bibliometric mapping can assist in focusing future research by indicating the necessity of connecting herbicide niche themes with more typical sustainability discussions.

4.2.4. Social structure or world collaboration

Research partnerships between nations are displayed as blue-shaded countries with connecting lines in the Country Collaboration Map created through Bibliometrix-R software. The frequency of collaborative research between nations is shown through line connections between them while dark color patches signify stronger collaboration activity. The provided dataset displays ten pairs of countries which have shown one instance of collaboration indicating network connections between Australia–New Zealand, Brazil–Colombia and Germany–Canada and India–UAE. Geographical location together with financial relationships and academic institutions determine research partnership development between countries. Dark colors used to represent USA and China countries indicate that these nations have strong influence in worldwide research networks.

Bibliometric investigations benefit from this mapping since it enables better scientific networking analysis as well as funding distribution understanding alongside policy-making insights. Additional research methods should be employed due to restricted dataset size to establish absolute collaboration intensity levels. The consistent frequency pattern implies data limitations because it may demonstrate selected research partnerships instead of worldwide trends. The analysis of academic alliances and dominant research centers would improve through additional weighted collaboration frequency entries in the dataset. The visual presentation holds significant value for governments institutions and research groups as it assists their strategic building of international scientific partnerships.

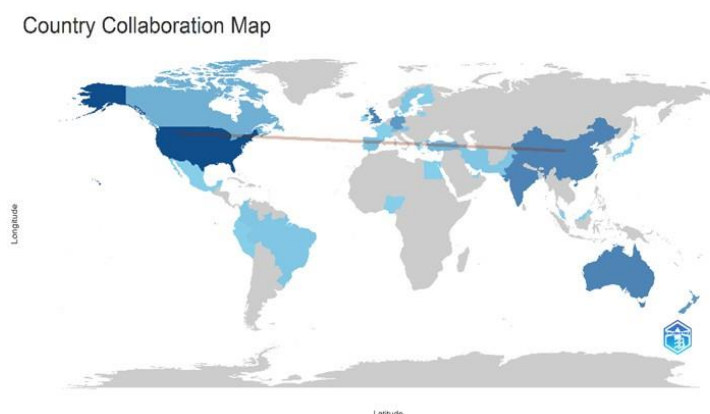


Fig. No. 9: Country Collaboration, Source: authors own compilation using Bibliometrix R

4.2.5. Author collaboration network

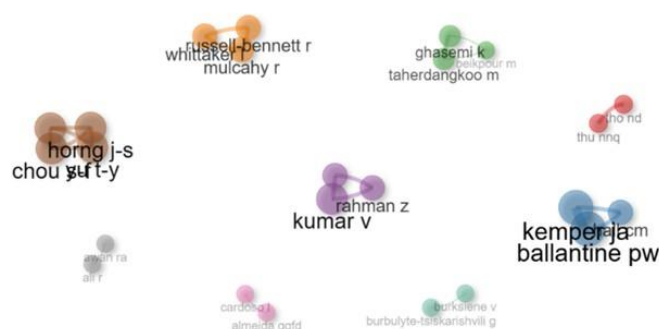


Fig. No. 10 : Author collaboration network, Source: authors own compilation using Bibliometrix R

The visualization shows interconnected groups of authors involved in scientific publishing alongside the table information about their collaboration activities. The size of the author names demonstrates their level of importance in the network because centrality and impact probably influence this measurement. A single cluster exists to show tightly working researcher groups that demonstrate low connection numbers with other clusters. The supplementary metrics in the table show Betweenness at 0 for all authors since they lack intermediary functions while Cluster 1 authors have Closeness at 1 because they can directly access all cluster nodes and other authors maintain a Closeness value of 0.5. PageRank metrics present minor variations among authors.

The authors interpret these results to show separate research groups work closely together yet maintain minimal interpersonal ties with researchers from different clusters. Many separate research clusters exist instead of a unified interconnected structure because researchers show specialized focus on different fields. The authors within Cluster 1 demonstrate the strongest levels of closeness according to network connectivity metrics. This research demonstrates the requirement to promote collaborative partnerships between different research clusters to maximize scientific knowledge integration and widen research achievements across fields.

Table:5- System-Driven Changes in Sustainable Marketing

<i>Emerging Trend</i>	<i>Future Research Directions</i>
The configuration of infrastructures now takes new forms to influence social conduct.	Examining the infrastructure changes' effect (Smith & Brown, 2021). Examining how infrastructure facilitate consumer buying for infrastructure changes (Jones et al., 2020).
Emerging policies and regulations for consumer behavior change.	- Explore the intersection of public policy and sustainability marketing (Doe & White, 2019). - Investigate methods to encourage consumer compliance with new policy changes (Adams & Green, 2022). - Examine ways to reduce polarization surrounding regulatory changes (Taylor & Lee, 2021).
Policies specific to transparency and reporting	- Assess corporate responses to policies that enhance transparency and accountability in sustainability efforts (Chen & Patel, 2020). - Analyze consumer reactions to sustainability reporting practices, such as carbon labeling and extended producer responsibility (Nguyen et al., 2021).
Policies supporting impactful change and SDG-related transformations	- Investigate policy effectiveness in achieving broader sustainable development goals (SDGs) (Miller & Johnson, 2023). - Examine how policy interventions drive long-term sustainable consumer behaviors (Rodriguez & Kim, 2022).

Table:6-Consumer-Driven Sustainability Initiatives

<i>Emerging Trend</i>	<i>Future Research Directions</i>
More focus on consumer advocacy behaviors related to sustainability	- Investigate how to best encourage consumer collective action around sustainability (Johnson & Lee, 2021). - Understand the most effective ways to encourage consumer advocacy behaviors around sustainability (Smith et al., 2022). - Examine best practices related to digital advocacy and consumer response (Wang & Brown, 2020).
Emerging focus on more impactful consumer actions and advancements in technology, including AI	- Examine the drivers of behavior change for more impactful sustainable consumer behaviors (Nguyen et al., 2021). - Investigate what encourages consumer uptake of sustainable technologies (Garcia & Kim, 2023). - Examine how consumers interact with and respond to new technologies (Adams et al., 2019).

	- Understand how AI and blockchain technologies might be used to guide and inform sustainable consumer decisions (Miller & White, 2023).
New innovations and business models aimed at reducing waste	- Investigate how to best encourage consumers to engage with new innovations related to waste reduction (Rodriguez & Taylor, 2022).
Emergence of carbon labeling and increased attention to social and environmental facets of sustainability	- Understand the factors that influence how consumers comprehend and respond to carbon labeling (Chen & Patel, 2020). - Examine what types of information (social vs. environmental) lead to more meaningful consumer behavior change (Doe & Green, 2021).

CONCLUSION

This article offers a bird's eye view of the evolution of sustainable marketing research within the period of 2007 till 2017, developing the bibliometric study for sharing the key trends, dominant thematic areas and influential authors in the research. The results show how academic interest in the sustainability driven marketing strategy is going to grow and how environmental, social and ethical parameters are becoming relevant for businesses. Intellectual structures of sustainable marketing practice are mapped into a whole that is characterized by interdisciplinary nature, and has strong linkages with corporate social responsibility, green consumer behavior, and digital transformation. Additionally, the study ranks leading journals and prolific scholars working on sustainable marketing that serves as a confirmation that the sustainable marketing is now a consolidated research domain.

The implication of this study is that academic and practitioners can leverage the theoretical and methodological breakthroughs in sustainable marketing research. Future research agendas for emerging themes include circular economy practices, artificial intelligence in sustainable branding, and regulatory impacts on green marketing. Moreover, even though the study depicts broad bibliometric patterns, a deeper content analysis and empirical validation can add to the understanding of the concept underlying sustainable marketing. This study is therefore a foundation for continued discussions and innovation in the endeavor of promoting the pervasion of the marketing frameworks with sustainability.

CONFLICT OF INTEREST

No potential conflict of interest was reported by the authors.

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