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Sustainable Marketing: A Scientometric Analysis Using Biblioshiny and R Package

Keywords: sustainable marketing; sustainable development; green marketing; bibliometrics

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Abstract

Theoretical background: Sustainable marketing is an increasingly popular topic in the field of scientific work. In the literature, a clear popularity of given approaches and perspectives can be seen, but only meta-analysis is able to define clear trends occurring in the literature.

Purpose of the article: This paper aimed to analyze the state-of-the-art research on sustainable marketing through a bibliometric study using the Biblioshiny tool. Based on the articles published from 2019 to 2023 the results from the perspective of growing trends in the field were achieved.

Research methods: The analysis was initiated by the appropriate selection of keywords and subsequent narrowing of the database of scientific articles in accordance with the adopted criteria. The results in graphic form have been discussed and interpreted in detail. The comparison of this article's output with the literature review allowed for the confrontation of the obtained research with the conclusions of the foregoing studies.

Main findings: In the results, existing trends, such as a consumer-oriented approach, can be found. The multicultural approach seems to be an aspect not visible in the manual literature overview. The analysis also shows a clear increase and potential of publications on sustainable marketing and a multipronged perspective of the topic in the context of different aspects of business.

Introduction

The ubiquitous idea of sustainability development has touched all aspects of business operations, including marketing. Promoting environmentally responsible products leading to being a sustainable organization has become a significant factor in developing the company's strategies (Mio et al., 2020). The importance of sustainable marketing implementation results from the expectations of both consumers and government organizations, as well as trendsetting companies, and these expectations will likely continue over the following years (Sheth & Parvatiyar, 2021; Peterson et al., 2021). Implementing a sustainable marketing policy positively impacts the satisfaction of environmentally aware customers (Vafaei et al., 2019; Sharma, 2021). For this reason, sustainability is a key factor for companies to keep their customers satisfied, consequently leading to a competitive advantage over their competitors (Vafaei et al., 2019).

Sustainable marketing is the way to beneficially adjust business operations to the increasingly environmentally-oriented world and sustainable development trends

(Nosratabadi et al., 2019; Witek & Kuźniar, 2021). It contains multiple elements, and there are many strategies for its implementation, which can be used in whole or in part, adapting to the needs of the individual companies (Sander et al., 2021). It constantly evolves and moves in several directions depending on emerging expectations (Sheth & Parvatiyar, 2021). Sustainable marketing is closely linked to green marketing. However, its beginning is estimated around 2000, and it refers to the concept of sustainable development more broadly than green marketing (Dangelico & Vocalelli, 2017; Katrandjiev, 2016). It concerns social and economic aspects and has a strong orientation towards customers' future needs (Katrandjiev, 2016).

Due to the development of sustainable marketing in recent years, this topic is increasingly appearing in research papers in the field of management and quality sciences. Therefore, this article aims to conduct a scientometric analysis of sustainable marketing using the R software and Bibliometrix tool. The research involves creating a literature collection of scientific papers published over the last five years and analyzing them accordingly, with particular emphasis on identifying key research areas in this topic as well as emerging trends. The study will allow us to understand better the idea of sustainable marketing and the direction its development is heading. It will also provide guidelines for researchers on the theoretical aspects of sustainable marketing and identify its newest scientific trends. Due to this study following research question will be answered: What are the trends, leading topics, and shortcomings in the context of the sustainable marketing?

Literature review

Sustainable marketing, often referred to as sustainable advertisement or green marketing, has emerged as a crucial approach for businesses seeking to balance commercial success with environmental responsibility (Sanclémente-Téllez, 2017; White et al., 2019). The term “sustainable marketing” is much broader than “green marketing”; thus, green marketing is a subset of sustainable marketing. Sustainable marketing includes previous activities implemented as part of marketing strategies, however, taking into account enterprise sustainability and their three pillars: environment, social, and governance (ESG). Sheth and Parvatitar (2021) point out that companies can build a sustainable marketing strategy through four distinct activities: redesigning products and services, promoting responsible consumption, changing the marketing mix and reorganizing the marketing function. This literature review aims to explore prior research on sustainable marketing and related issues. Sustainable marketing entails marketing practices that meet the needs of present consumers while preserving the ability of future generations to meet their own needs (Kotler et al., 2009). With growing concerns about environmental degradation, businesses face the challenge of adopting sustainable practices to maintain competitiveness while addressing environmental issues (Sanclémente-Téllez, 2017).

The origins of green marketing can be traced back to the work of Lazer in 1969, who introduced it as a dimension of social marketing. Since then, it has evolved to encompass various aspects of traditional marketing, focusing on environmental sustainability. Over the years, researchers have explored the concept's dimensions, including green innovation, greening the process, and green supply chain (Chahal et al., 2014). As proposed by Martínez (2015), green marketing orientation has gained attention as a company's strength in maintaining a competitive advantage in sustainable practices.

The sustainable marketing orientation has been a subject of interest in the literature (McDonagh & Prothero, 2014). Companies embracing sustainable marketing orientation are more likely to engage in green innovation, leading to a competitive advantage in the company's performance (Majeed et al., 2022). Sustainable marketing orientation has become an essential component of customer orientation, allowing companies to respond effectively to changes in customer needs while considering environmental concerns (Dragolea et al., 2023). Studies emphasize the importance of building a sustainable marketing orientation to achieve product excellence and success in a competitive market (Sander et al., 2021).

One prominent trend in sustainable marketing research is the examination of green marketing strategies and their impact on consumer behavior (Ottman, 2011). Studies have investigated various green marketing tools, such as eco-labeling, green packaging, and green branding, and how they influence consumers' intentions to purchase environmentally-friendly products (Majeed et al., 2022). This indicates the increasing importance of green marketing in driving sustainable consumer behavior (Trudel, 2018).

Another trend focuses on the sustainable behavior of Generation Z consumers, a significant consumer segment known for their environmental consciousness. Research has explored the preferences and attitudes of Generation Z towards sustainable products and practices (Dragolea et al., 2023). It was shown that sustainable marketing practices influence consumer patterns positively. Understanding the behavior of this generation is essential for businesses seeking to cater to their sustainability preferences.

Corporate social responsibility (CSR) and its impact on business performance is also a prominent topic in sustainable marketing research. Scholars have examined how CSR initiatives affect a firm's reputation, brand loyalty, and financial performance (Khandai et al., 2023). This highlights the significance of incorporating CSR into sustainability strategies for improved business outcomes.

The role of influencers and user-generated content (UGC) has emerged as a potent force in motivating consumers to buy sustainable products (Panopoulos et al., 2023). This aspect of sustainable marketing underscores the influence of digital platforms and social media in shaping consumer preferences and behaviors. Moreover, some researchers propose degrowth as an alternative framework to steer sustainability marketing debates (Lloveras et al., 2022). This perspective challenges the traditional

notion of sustainable development and advocates for transformative policies and business models to address ecological and environmental concerns.

Prior research in sustainable marketing has shed light on various dimensions, ranging from the effectiveness of green marketing strategies to the sustainable behavior of Generation Z consumers. Green marketing strategies, such as eco-labeling and green branding, have significantly impacted consumers' intentions to purchase sustainable products (Majeed et al., 2022). Understanding the preferences and attitudes of Generation Z consumers is vital for businesses aiming to engage with this environmentally conscious demographic (Dragolea et al., 2023). Additionally, studies have highlighted the importance of incorporating CSR initiatives into sustainability strategies to enhance brand loyalty and business performance (Khandai et al., 2023).

The diverse literature offers several options and perspectives for future research in sustainable marketing. Researchers can delve deeper into the effectiveness of specific green marketing strategies across different consumer segments and cultural contexts, such as eco-labeling and green packaging. Additionally, exploring the role of influencers and UGC in driving sustainable consumer behaviors, including their impact on consumer knowledge and decision-making processes, presents an intriguing possibility for further research.

The vast majority of articles prove the importance of sustainable marketing in both preserving the climate (Lloveras et al., 2022) and canvassing for customers (Khandai et al., 2023; Dragolea et al., 2023). Therefore, it is important to analyze the current publications on this topic and to determine the prominent topics that can be undertaken in the research area in the future.

Research methods

The purpose of the article is a scientometric analysis of sustainable marketing topics based on the Scopus database of peer-reviewed scientific papers, including scientometric analysis performed on the R software and the Biblioshiny application.

Sustainable marketing is a relatively new issue that has only been brought up in research over the last 30 years as the product of the development of two terms: "sustainability" and "green marketing" (Kemper & Ballantine, 2019). Nevertheless, the topic appears gradually more often in discussions (Saleem et al., 2021), and knowledge about it is being broadened. Thanks to that, authors are able to carry out observation of research trends and highlight the most essential aspects in the dynamically developing area of sustainable marketing.

The scientometric analysis uses three tools (Scopus Database, Biblioshiny application & R software, and Descriptive analysis), as shown in Figure 1, and is compliant with PRISMA methodology (Salameh et al. 2020). The research authors took into account peer-reviewed journals available in the Scopus scientific database. The choice of that specific database can be justified by the fact that it is an extensive

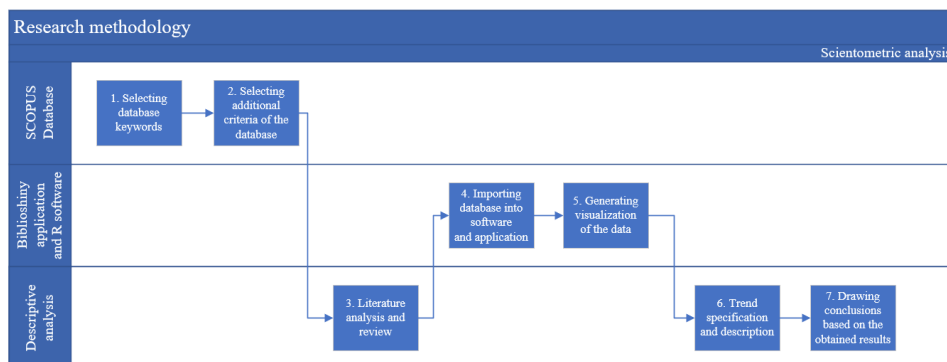


Figure 1. Research methodology

Source: Authors' own study.

source-neutral database of abstracts and citations from peer-reviewed scientific publications, which provides advanced structured query language capabilities and an intuitive design (Burnham, 2006). The database of scientific articles was selected using keywords among:

- main: sustainable marketing, green marketing, organic marketing, eco-marketing, environmental marketing, and sustainable branding,
- subsidiary: sustainability, marketing, corporate social responsibility, ecological behavior, environmentally-friendly behavior, and sustainable consumer behavior.

These criteria of the database have been selected in such a way as to obtain a sufficient amount of data, but at the same time, to ensure that the articles chosen are relevant and precise to the selected topic.

Similar analyses have mainly been carried out only on terms related to sustainable marketing and cover the period since the first article on this topic appeared. Research shows that the topic is gaining more and more attention nowadays (Geng & Maimaituerxun, 2022), so, in order to show the latest view of researchers on the subject, the authors decided on a period of 5 years of analysis to analyze the latest trends in this topic. After conducting the first two steps of the research methodology (Figure 1) a total of 76 studies published between 2019 and 2023 were considered for this analysis.

Then, the literature review is conducted, where the understanding of the scientific articles in case of broader context and evaluation of the usefulness of the material is done (stage 3 in Figure 1). The bibliometric citation analysis consists of data collection, systematization of knowledge, data analysis, observation of the trends about the topic and its range, and data visualization by creating a Science Mapping Workflow (study of thematic networks). This analysis was done thanks to the R software and the Biblioshiny application (shown in Figure 1 in steps 4 and 5). Subsequently, our research findings are compared to the results of other scientists in the form of discussion (stage 6 of the research methodology). In the end, the conclusions are formed as the result of the research (the last step listed in Figure 1).

Results

Key information about the database based on which the scientometric analysis was prepared has been shown in Figure 2. The criteria for selecting articles have been chosen so that their publication dates are between 2019 and 2023. The entire database is compiled from 76 papers, which have been published or are in the process of being published in 46 sources, the most predominant of which is the peer-reviewed open-access journal *Sustainability (Switzerland)* with 22 publications. Other sources had only 3 publications (*Journal of Cleaner Production* and *Business Strategy and the Environment*) or less. The negative average growth of scientific papers on sustainable marketing (-3.78%) is due to the analysis being conducted in the middle of the year 2023, so the number of published articles in 2023 is lower than in the other years (which is expected to change by the end of the year). The highest number of articles have so far been created in 2022.



Figure 2. Main database information

Source: Biblioshiny.

All these articles were created by 257 authors, and only 6 of them were single-authored. On average, one paper was written in collaboration with 3.49 authors. Figure 6 indicates that 34.21% of selected scientific articles involved international co-authorship, which means that these articles were made by two or more authors from different countries. The amount of international co-authorship points to the crucial role of interaction among researchers to diversify their sources of knowledge. In the general trend, there is a noticeable emphasis on networking between scientists. It is more and more common to see articles that rely on group work instead of individual work, as well as an increase in authors' collaboration between institutions or across borders (OECD, 2009).

The authors used a total of 289 keywords, the purpose of which is to help their papers be found in search engines when others search for relevant topics. These 76 articles were based on 6,258 references, so one article is, on average, created using 82.3 knowledge sources. As the short time span criterion was considered in this database, the document's average age is 2.03 years. The average citation for each

article was 17.43. The most cited article was “Evaluating the purchase behaviour of organic food by young consumers in an emerging market economy”, which was cited 154 times since published in 2019, and “The interplay of strategic and internal green marketing orientation on competitive advantage” (2019) with 123 citations. Performing the analysis, it comes out that 39.5% of articles were cited between 11 and 76 times, 30.3% of articles were cited between 2 and 10 times, and 27.6% of articles were cited 1 time or none at all. This is due to taking into account relatively young papers (some even in the publication phase).

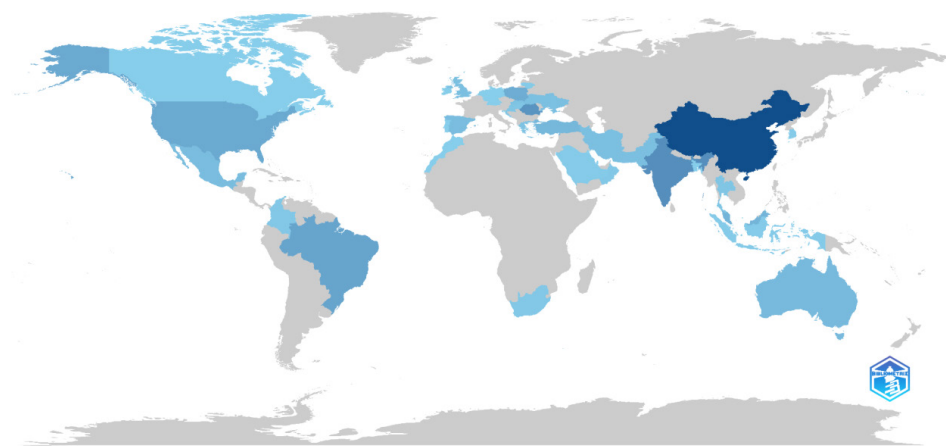


Figure 3. Countries' scientific production

Source: Biblioshiny.

The countries from which the articles included in the database originated have been shown in Figure 3. There are 37 countries included in this map, and the analysis considers the country affiliations of each of the authors of a given publication. Each article is attributed to the countries of all its co-authors; therefore, it is counted as many times as the number of its co-authors. The document quantity interval is between 1 and 50 published articles with the theme of sustainable marketing. The results prove China is the first-ranked country with 50 papers published, distinguished by the greatest number among other countries, as the second rank is India with 24 published papers. Romania is third in the rank, with a similar number of articles amounting to 22. The successive countries on the list are Brazil, the USA, Poland, and Malaysia, with the number of published papers between 20 and 10. Finally, the vast majority of countries in the list have assigned less than 10 articles. The study shows the need to increase the number of papers on sustainable marketing in Europe, as only two European countries appear in the first ten positions of the list. This is also proven by the number of affiliations from European countries in the whole rank, being only 78 in total. Figure 3 shows that the worldwide number of publications on

the topic in question is low. Deepening studies leading to an increase in the number of articles could result in developing existing sustainable marketing strategies and researching innovative ones.

In Figure 4, the thematic map of the field of sustainability marketing is shown, dividing themes into four quadrants. The upper left quadrant represents niche themes, and the lower left quadrant symbolizes emerging or declining themes. The upper right quadrant is for motor themes, and the lower right quadrant represents basic themes. Figure 4 presents clusters of Keywords Plus from the articles included in the database and the frequency with which they were used.

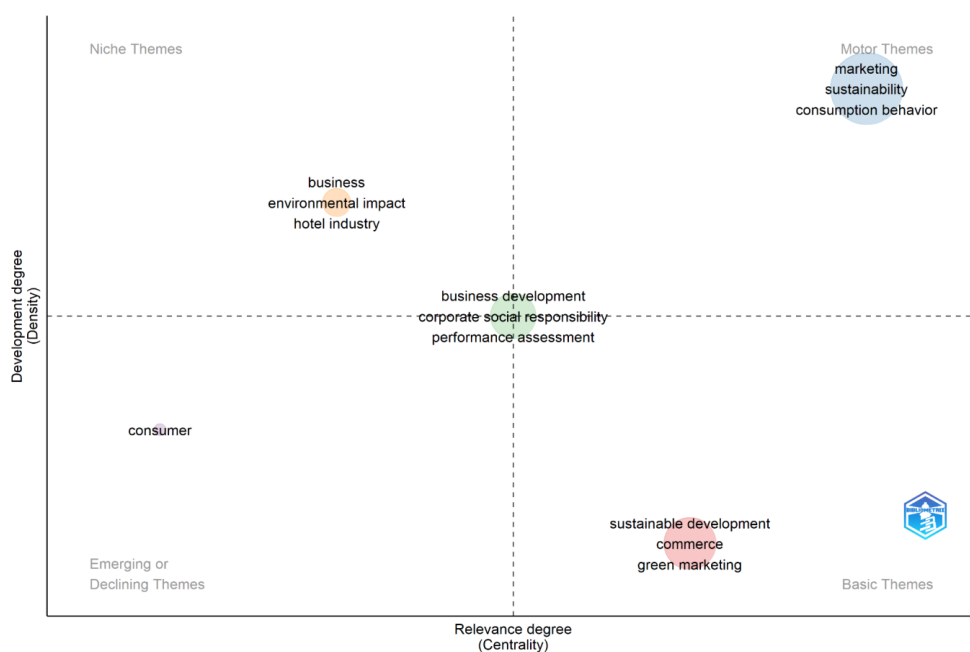


Figure 4. Thematic map

Source: Biblioshiny.

Figure 4 demonstrates that the essential themes for field growth are “sustainable development”, “commerce”, and “green marketing”, characterized by high centrality but low density. All three are closely linked to the main field of the study and are covered in most of the articles discussed. These keywords are crucial to cover in the study since they relate to general topics. Simultaneously, the most important themes are “marketing”, “sustainability”, and “consumption behavior”, characterized by high density and centrality. These are the leading keywords in the field and are used most frequently. A subject that is only just emerging is “consumer”, which may indicate a recent growing interest in customer focus and customer needs in articles about

sustainable marketing. Specific and uncommon topics are “business”, “environmental impact”, and “hotel industry”. The first two could have been included here because of the more frequent use of similar and more relevant keywords, while the last one definitely concerns a niche topic. Themes placed in the middle of the map have the potential to further develop and structure the research field.

Words used in the article with the frequency of their occurrence are presented in Figure 5. The second number presented on the tree map represents the percentage usage of the word with respect to the overall keywords dataset. As the topic indicates, the terms “marketing” and “sustainability” are used with the highest frequency. However, it is worth mentioning that they were not used in all articles. They were found only in 36 and 11 articles, respectively. This phenomenon can be explained by the existence of synonyms, which may indicate the breadth of the topic discussed and in terms of naming.



Figure 5. Tree map

Source: Biblioshiny.

Overall, a summary of the frequency of the keywords can show several aspects of the topic. Usage of the words such as “consumption behavior”, “perception”, “consumer behavior”, and “attitude”, point to consumer perception and behavior emphasis. The thematic view is therefore focused on consumer behavior and how it can be influenced by the actions of companies, so the consumer himself remains at the very center of considerations. Based on that, the trend and source of activities directed to sustainable marketing can be seen. The analysis of words also indicates the phenomenon of globalization of the topic under consideration. The use of words like “China”, “India”, “Poland”, and “United States” points to the importance of the topic not only regionally but also globally. This phenomenon may set the point for potential meta-analyses and juxtapositions of actions taken in different parts of the world. Word analysis also indicates the research methodology used to analyze the topic. “Empirical analysis”, “questionnaire survey”, “attitudinal survey”, and “litera-

ture review” suggest the way in which the topic has been researched and developed. Showing the direction of previous analyses leaves room for introducing new ways of developing the topic in terms of methodology.

In addition to the frequency of use of the term, it is worth analyzing their appearance over time, as this enables setting trends and determining their relations. It helps to show the relative interest in given subject areas and the potential of future analyses. The years taken into consideration for the analysis are 2019–2022, which allows us to determine a fresh perspective adequate to the current scientific situation. Figure 6 shows that thematic interest in sustainability and environmental values far precedes the occurrence of sustainable marketing in scientific works. On the other hand, the focus on sustainable marketing seems consistent in the years 2020–2022 with high occurrence frequency values. What is more, the median was placed in the middle of the line, defining the period. This means that the trend can be successively and evenly changing. Based on these observations, it may be concluded that the thematic potential of sustainable marketing is at the stage of development, and its movement in the scientific space is likely to develop further.

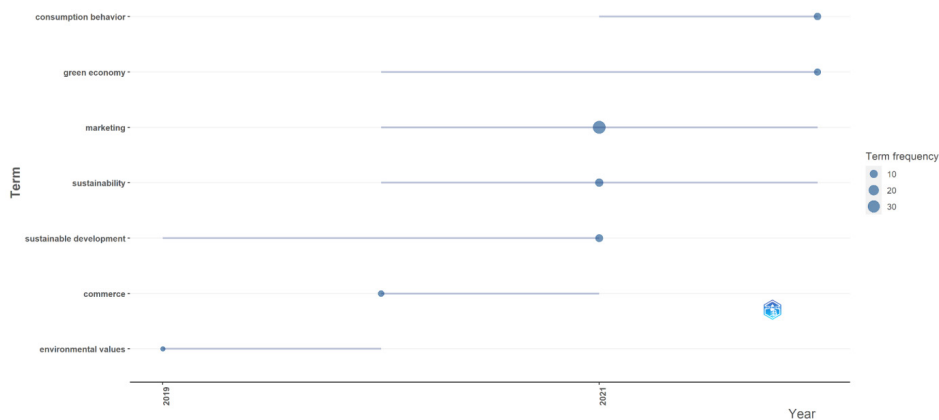


Figure 6. Trend topics

Source: Biblioshiny.

The frequencies of “consumption behavior” and “green economy” have similar frequencies, which additionally might indicate the link between sustainable consumption habits and focus on sustainability itself (also showed in another analysis of the figures in this article) and potential space for scientific development in literature through a combination of these two things.

The co-occurrence network is shown in Figure 7. In this network, nodes represent different terms, such as keywords and topics, that have appeared together in the same article. The edges between nodes indicate the co-occurrences of these terms. The data used to establish this network includes metrics such as: betweenness, closeness,

and page rank. They are all listed in Table 1 and used to analyze the importance and centrality of each term in the network. Betweenness is a metric that measures which nodes serve as connectors in the network, the higher the betweenness value, the more critical role in the network. Closeness measures how central the node is within the network, the higher the value, the more central the node is and has a more direct connection to other terms in the network. Nodes with higher centrality values will appear larger and more prominent. Page rank is a measure based on a Google algorithm that determines the importance of a node based on the number and quality of incoming co-occurrences from other important nodes. Terms with higher page rank values are considered more influential in the network.



Figure 7. Co-occurrence network

Source: Biblioshiny.

Table 1. Co-occurrence network source data

| Node | Cluster | Betweenness | Closeness | Page rank |
|---------------------------------|---------|-------------|-------------|-------------|
| commerce | 1 | 41.50482825 | 0.014084507 | 0.030543662 |
| green marketing | 1 | 26.49517175 | 0.014084507 | 0.02914617 |
| consumer behavior | 1 | 0 | 0.00952381 | 0.017850855 |
| marketing campaign | 1 | 0 | 0.00952381 | 0.015802872 |
| marketing | 2 | 566.1748195 | 0.024390244 | 0.233223352 |
| sustainability | 2 | 13.02233193 | 0.015384615 | 0.066439931 |
| sustainable development | 2 | 3.487733259 | 0.014285714 | 0.034407658 |
| business development | 2 | 0.505263158 | 0.013513514 | 0.021770047 |
| corporate social responsibility | 2 | 0.761904762 | 0.013513514 | 0.020950358 |
| performance assessment | 2 | 0 | 0.012987013 | 0.008987365 |
| business | 2 | 0 | 0.012987013 | 0.007307366 |
| consumer | 2 | 0 | 0.012987013 | 0.007307366 |
| corporate strategy | 2 | 0 | 0.013157895 | 0.010748132 |

| Node | Cluster | Betweenness | Closeness | Page rank |
|-------------------------|---------|-------------|-------------|-------------|
| environmental impact | 2 | 0 | 0.013157895 | 0.010444807 |
| hotel industry | 2 | 0 | 0.013157895 | 0.010444807 |
| integrated approach | 2 | 0 | 0.012987013 | 0.007307366 |
| investment | 2 | 0 | 0.013157895 | 0.011264656 |
| manufacturing | 2 | 0 | 0.012987013 | 0.007307366 |
| prioritization | 2 | 0 | 0.012987013 | 0.007307366 |
| social media | 2 | 0 | 0.012987013 | 0.007307366 |
| stakeholder | 2 | 0 | 0.013333333 | 0.014145715 |
| united states | 2 | 0 | 0.012987013 | 0.007307366 |
| green economy | 3 | 36.59549001 | 0.014084507 | 0.036407188 |
| China | 3 | 3.002054989 | 0.014285714 | 0.034746065 |
| environmental values | 3 | 0 | 0.013513514 | 0.016268232 |
| environmental economics | 3 | 0.173913043 | 0.01369863 | 0.023553904 |
| local participation | 3 | 0 | 0.013157895 | 0.010781972 |
| consumption behavior | 4 | 25.09131235 | 0.015151515 | 0.057825053 |
| perception | 4 | 5.474951632 | 0.015151515 | 0.051931614 |
| public attitude | 4 | 16.71022541 | 0.014492754 | 0.047471522 |
| strategic approach | 4 | 0 | 0.01369863 | 0.024849745 |
| empirical analysis | 4 | 0 | 0.01369863 | 0.019809749 |
| psychology | 4 | 0 | 0.01369863 | 0.021439447 |
| questionnaire survey | 4 | 0 | 0.01369863 | 0.021423471 |
| attitudinal survey | 4 | 0 | 0.013513514 | 0.015035183 |
| advertising | 4 | 0 | 0.013513514 | 0.013423589 |
| market system | 4 | 0 | 0.00990099 | 0.010123232 |
| economic conditions | 5 | 0 | 0.009345794 | 0.007588087 |

Source: Biblioshiny.

Based on the co-occurrence measures, the nodes have been assigned to various clusters and colored accordingly; five clusters can be found. In the red cluster, there are terms such as commerce, green marketing, consumer behavior, and marketing campaign. This cluster appears to focus on marketing-related topics, with a particular emphasis on green marketing and consumer behavior. The presence of “commerce” suggests a connection to business and trade aspects. These terms are likely associated with articles exploring sustainable and environmentally conscious marketing strategies and their impact on consumer behavior. The blue cluster includes the most nodes among all clusters, suggesting it covers a wide range of topics. The following terms are taken into consideration in the blue cluster: marketing, sustainability, sustainable development, business development, corporate social responsibility, performance assessment, business, consumer, corporate strategy, environmental impact, hotel industry, integrated approach, investment, manufacturing, prioritization, social media, stakeholder, and United States. The blue cluster is related to business, sustainability, and corporate responsibility. The presence of “marketing” suggests a central theme around sustainable marketing practices. Overall, “marketing” is the single most important node

in the whole co-occurrence network. Terms like “sustainability”, “sustainable development”, and “corporate social responsibility” indicate a focus on environmentally and socially responsible business practices. Other terms in this cluster may relate to their impact on different aspects of business, such as environmental impact, investment, manufacturing, and stakeholder engagement. The green cluster considers the following nodes: green economy, China, environmental values, environmental economics, and local participation. It seems to revolve around topics related to the green economy and China. “Green economy” and “China” are prominent terms in this cluster, suggesting a specific focus on China’s role in green economic development and environmental issues. “Environmental values” and “environmental economics” indicate a potential exploration of the economic aspects of environmental conservation and the role of societal values in environmental decision-making. The purple cluster includes the following terms: consumption behavior, perception, public attitude, strategic approach, empirical analysis, psychology, questionnaire survey, attitudinal survey, advertising, and market system. This cluster appears to be centered around consumer behavior and perception-related topics. Terms like “consumption behavior” and “perception” suggest a focus on understanding how consumers perceive products or services and how their behavior influences market dynamics. Other terms in this cluster may relate to empirical analyses, psychological aspects of consumer decision-making, and the use of surveys or questionnaires in consumer research. The orange cluster consists of only one term, which is “economic conditions”. This term likely pertains to the overall economic situation and may be connected to discussions about how economic factors impact various aspects of sustainable marketing.

Discussions

Sustainable marketing is a topic of increasing interest in the scientific field. However, the meta-analysis of scientific articles does not always agree with individual analyses carried out in separate scientific papers, as can be seen in Table 2.

Table 2. Literature review and trend analysis comparison

| Subject of discussion | Literature review | Trend analysis |
|---|--|---|
| The topic of sustainable marketing in scientific activity | There is a need to increase institutional interventions and companies’ initiatives to stimulate sustainable marketing (Sheth & Parvatiyar, 2021). | There is a need to increase the number of papers on sustainable marketing in Europe. Its thematic potential is likely to develop further. |
| Consumer and his behavior in the context of sustainable marketing | Consumer-centric approach in the context of market-driving and market-driving sustainable marketing (Sheth & Parvatiyar, 2021). Consumer orientation in green marketing is said to be an important aspect in achieving competitive advantage (Papadas et al., 2019). | A consumer-centric approach is present in discussing sustainable marketing. This aspect is still growing and being developed. |

| Subject of discussion | Literature review | Trend analysis |
|---|---|---|
| Globalization effect versus culture-specific approach | Approach towards the topic considering developing and developed countries differ. Therefore, the research outputs are outlining different aspects (Witek & Kuźniar, 2021). What is more, social norms, which are often defined by place of origin, are strongly connected with the attitude toward sustainable marketing (Zukin & Maguire, 2004). | Globalization of the topic – multicultural approach. |
| Age context | Importance of age, emphasizing the meaning of Generation Z in sustainable marketing (Dragolea et al., 2023). Consumer attitude towards green products varies among different age groups (Witek & Kuźniar, 2021). | No significance of the age |
| Subject of discussion | Literature review | Trend analysis |
| Impact of aspects of business and economic factors on sustainable marketing | In individual articles, you can find consideration of the topic in conjunction with various aspects of business, for example, the role of employees, customers, and technology in sustainable marketing is considered (Kushwaha et al., 2022). | The multipronged perspective of the topic in the context of different aspects of business and economic factors. |

Source: Authors' own study.

Literature review shows that the need for institutional intervention and company actions, creating market-driving marketing is very important and accurate (Sheth & Parvatiyar, 2020). The role of a booster and propagator of such solutions may be played to some extent by scientific activity, which is responsible for gathering and creating knowledge and know-how. The need for a practical sphere demonstrated in individual scientific articles corresponds to the need to increase scientific output concerning the topic. Therefore, the need to increase the number of works on the subject of sustainable marketing, demonstrated in this article, becomes real. When it comes to the most essential aspects of sustainable marketing, both the analysis of individual literature and the meta-analysis carried out in this article agree on the orientation towards the consumer and his behavior in the context of shaping behavior as well as responding to customer needs.

The approach towards the topic differs when considering geographical division. The analysis carried out in this article indicates that the approach to the topic is quite unified in a cultural context. The co-authors are of different national origins, so the articles are written with a combination of perspectives from other parts of the world. However, by analyzing individual articles, one can find a specification and diversity of approaches to sustainable marketing, distinguishing between developed and developing countries or the impact of social norms, as can be seen in Table 2.

Literature reviews included at the beginning of this article provide information about important outlines and trends in terms of scientific discussion about sustainable marketing. One of them is age context – scientific work focuses on Generation Z and considers the young generation as a potential target group for sustainable marketing activities. This trend cannot be seen in the meta-analysis conducted in this article. However, the analysis made in the article shows compliance with the literature

review in terms of the multifacetedness of the topic. In both cases, you can see the integration of various economic and business aspects with sustainable marketing.

The analysis carried out in the article enabled us to define trends arising in scientific works on sustainable marketing. Some of them were confirmed by the analysis of individual articles. The juxtaposition of two review sources – meta-analysis using the Biblioshiny tool and manual review of literature allowed for the confrontation of trends and verification of both analysis tools.

Conclusions

The conducted overview based on scientometric analysis allowed us to look at the topic of sustainable marketing in scientific literature. The use of the Bibliometrix tool enabled to demonstrate the trends, leading topics, and shortcomings in the context of the analyzed topic. All the created drawings, in combination with the literature overview, allowed us to draw conclusions, grouping and organizing the knowledge conveyed. The observed tendencies and discussions made in the scientific literature can be reduced to a few conclusions important for the analysis.

The first is the significant emphasis and centralization around the topic of consumer perspective and consumer behavior. The analysis shows that centralization of consumer focus is said to be constantly present. Nowadays, the interest is growing, building the potential of the topic in terms of sustainable marketing. On the other hand, the analysis shows that not only the individual, customer-centric approach is important, but the topic of sustainable marketing is also analyzed in detail in a broader context, covering topics such as competitive advantage, manufacturing or existence in the general economic condition. The topic is therefore connected to other aspects of business.

The analysis also recurrently details the importance of the topic in the context of geographical occurrence. The trend of globalization of the topic shows that it is an important subject, not assigned in detail to a given geographic market or culture. Its presence on the scientific scene worldwide also shows the potential for development and comparisons between different geographical regions. The geographical analysis also indicated the need to develop the topic, especially in European countries.

Quantitative and qualitative research has shown a constant interest in the topic, paying attention to its potential and the forecast of future development. However, it should be noted that the analysis was carried out over a narrow time range covering the years 2019–2023. This procedure allowed us to specify the most current trends taken from the latest sources of knowledge. Nevertheless, it would be worthwhile to carry out an analysis based on a broader period. This would allow for a better picture of changes in trends over time and their potential development. The analysis could also have been hindered by its conduct in mid-2023. Because of that, some of the results obtained (such as the growth rate) may not show the true reality of

trends. It should also be noted that the analyzed number of articles was 76. Further development of research could also include an expansion of the number of articles examined.

The article, besides its scientific value, also introduces potential for future development. By showing the existing trends in the scientific area, it outlines the developing and niche subjects that could become centers of future interest. What is more, the comparison with the literature overview allows us to confront trends resulting from the analysis with practical observations of the scientific literature. The obtained results are the result of the analysis of a representative sample and with the use of a specialized tool, which allows us to accept the presented trends as current and important for the scientific sphere. This sets the direction for further scientific work and potential areas of growth and demand in scientific work. In the realm of traditional marketing, numerous indicators are employed for marketing measurements, leading to the complexity of parameter selection (Więcek-Janka & Szewczuk, 2022). This intricacy is very probably also applicable to sustainable marketing. Such complexity creates opportunities for additional research in this field.

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