

A BIBLIOMETRIC PERSPECTIVE ON GREEN PRODUCT PROMOTION: MAPPING RESEARCH TRENDS AND KNOWLEDGE EVOLUTION

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***Abstract:** In today's times, when sustainability is increasingly influencing customers' expectations, promotion of green products is emerging as a substantial strategy for aligning consumer demands with corporate responsibility. As a result, an increasing number of researchers are interested in publishing on this increasingly relevant subject. In the present paper, a bibliometric analysis is conducted on publications extracted from the Web of Science Core Collection, which focus on green products promotion. The main purpose is to map, visualize, and interpret the conceptual framework of contemporary literature by keyword co-occurrence analysis using VOSviewer. As per the results, 6 clusters were identified, in which 69 unique items appeared minimum 9 times across the selected records. The study also highlights recent publishing trends such as the numbers of publications on a yearly basis, the most dominating research areas as well as the countries/regions that contributed the most to the existing literature between the period of 2020 and 2025.*

Key words: green products, bibliometric analysis, business sustainability, green behavior

INTRODUCTION

In the past few decades, excessive consumption has resulted in environmental deterioration [13,17]. Due to this, a considerable portion of environmentally conscious consumers has emerged who value firms that take sustainable actions [8]. As a result, the growing concern of environmental problems among consumers on a global scale is pushing the companies to also act sustainably [3,6,14,22]. This helps the organizations in eventually building a positive brand image and reputation among customers [21], which can act as competitive advantage [4,15,18]. Similarly, marketing department is allocated the task of creating a suitable marketplace [16] where the consumers understand the importance of adopting ecological products and are also ready to consciously make changes in their current buying pattern by purchasing green products. Hence, marketing plays a pivotal role in fostering sustainable consumption [11] among consumers [31] by influencing their present mindset, perception, attitude and behavior [14]. Green marketing is described as sum total of efforts put by companies to meet demands of those consumers who prefer environmental-friendly products or services [6,8]. However, in order to solve environmental issues, it is not sufficient for the companies to sell green products and for the customers to only buy ecological products. The organizations who use green marketing as their strategy are recommended to also embrace consistent pro-environmental values in all of their departments and functions in order to gain consumers' trust [1,23]. Similarly, while some firms succeed in internalizing sustainable values and align their business models with the Sustainability Development Goals (SDGs) [9,24] proposed by the United Nations [10], others fail to keep their promises and result in greenwashing [25], which is a deceptive marketing practice [19] that aims to make a company appear more sustainable than in reality [12,21]. Another issue is that existing literature has also pointed out several times regarding the intention-action gap among consumers [7,27,28,30,32]. Based on this,

we may conclude that not all consumers who claim to prefer green products, actually buy them in reality [28].

Due to an increasing importance of sustainability issues [2,20], concepts like green marketing or ecological marketing have gained attention of researchers and scholars [5,26]. This is why, a significant surge is observed in the number of publications regarding this topic, especially in the past few years. Previous scholars suggest that bibliometric analysis plays a guiding role in identifying publication trends and determining some future directions [29]. Therefore, the primary objective of this paper is to throw light on recent publication trends by performing a bibliometric analysis on recently published papers, thereby filling the existing literature gap. More precisely, this article aims to answer the following research questions:

RQ 1: What are the major recent publication trends of the concept green marketing in the past few years (more precisely, between 2020 and 2025)?

RQ 2: Which research areas or fields witnessed maximum number of publications of green marketing from 2020 to 2025?

RQ 3: Which keywords are most prevalent in the existing literature concerning green marketing between 2020 and 2025?

MATERIALS AND METHODS

In order to answer the research questions mentioned in the previous section, the bibliometric analysis method is employed. For using this methodology effectively, all necessary steps were followed to maintain the relevance of this study.

Firstly, out of various databases, Web of Science (WOS) was chosen for searching publications as it is believed to be one of the most credible, well-reputed and trustworthy databases worldwide [26].

Secondly, relevant keywords were searched on the search query of the WOS Core Collection. This query, dated from 31.10.2025 was as follows: "green marketing" or "environmental marketing" or "environmentally friendly marketing" or "sustainable marketing" or "eco-marketing" or "eco-friendly marketing" or "environmentally friendly marketing" or "ecological marketing" or "sustainability communication" or "sustainable branding".

Thirdly, after running the above-mentioned query in the WOS Core Collection, relevant publications were identified by this database. At this point, in total 2790 records were obtained, out of which 133 publications were excluded during screening process due limitations on language (only English language records). This resulted in 2657 records, on which we applied document types filter and extracted only research and review articles, which led to 2232 documents, thereby excluding 425 publications.

At last, the most significant filter of this analysis was applied: publication years. Only the records published between 2020 to 2025 were included, which means that another 867 publications were removed because of not meeting the selection criteria. The main motivation behind using this time frame of publication was to throw light only on the latest publishing trends. For this purpose, only recent year records were extracted and as a result, a total of 1365 articles about green marketing were selected for performing bibliometric analysis.

Lastly, after the screening process, the relevant and selected articles were extracted from WOS Core Collection for performing co-occurrence analysis using VOSviewer. In this tool, minimum number of occurrences for each author's keyword were adjusted to be 9, which resulted in 6 clusters.

RESEARCH RESULTS

After the selection criteria, it was found that out of 1365 publications, 1280 are research articles, and 85 are review articles. As seen in the Figure 1, the number of publications per year have been increasing in the past few years gradually, which shows that there is a growing interest among researchers, scholars and academics regarding this subject.

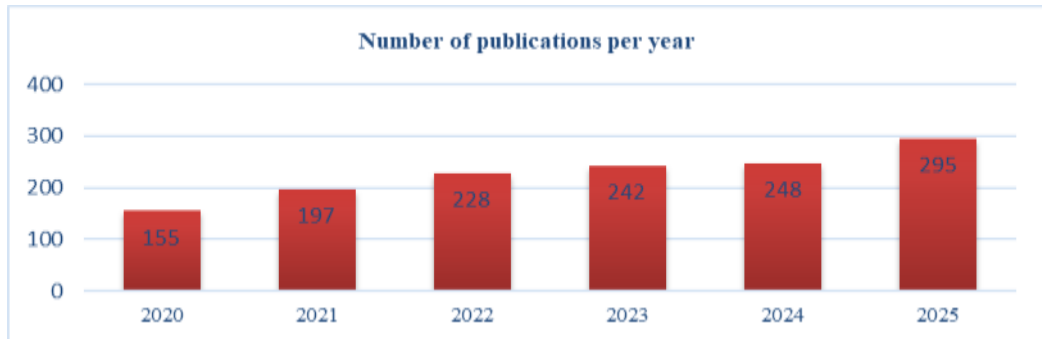


Figure 1. Publication trend of green marketing (2020-2025)

Source: Citation Report of WOS Core Collection

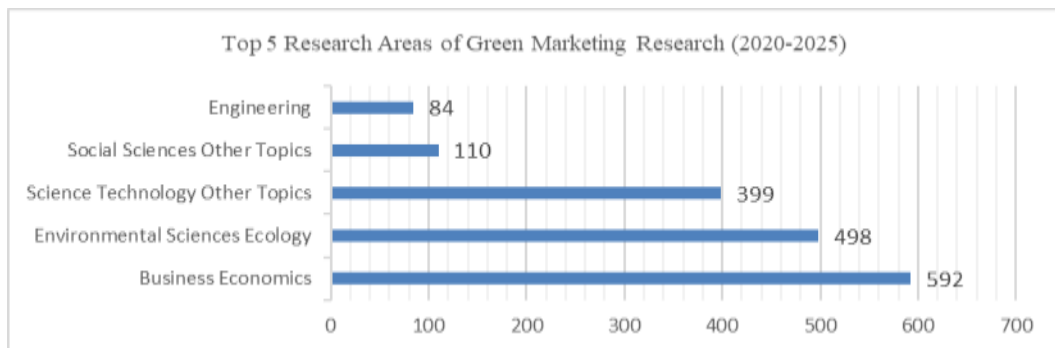


Figure 2. Top 5 Research Areas of Green Market Research indexed in WOS (2020-2025)

Source: WOS Core Collection

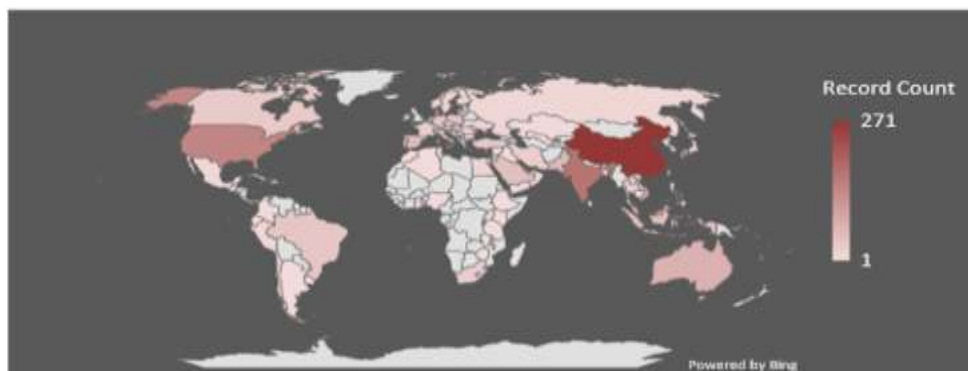


Figure 3. Most geographical regions in green marketing literature

Source: WOS Core Collection

Figure 2 shows that majority of the articles published belonged to the Business Economics research area. This shows that even though green marketing is an interdisciplinary field, researchers mostly observe it through a market-oriented lens.

Similarly, Figure 3 sheds light on the most influential geographical regions worldwide concerning green marketing research between 2020 and 2025. The results displayed in the previous figure are consistent with this one as it is clearly visible in the filled map that the publications are heavily concentrated in Asia (more precisely, China and India).

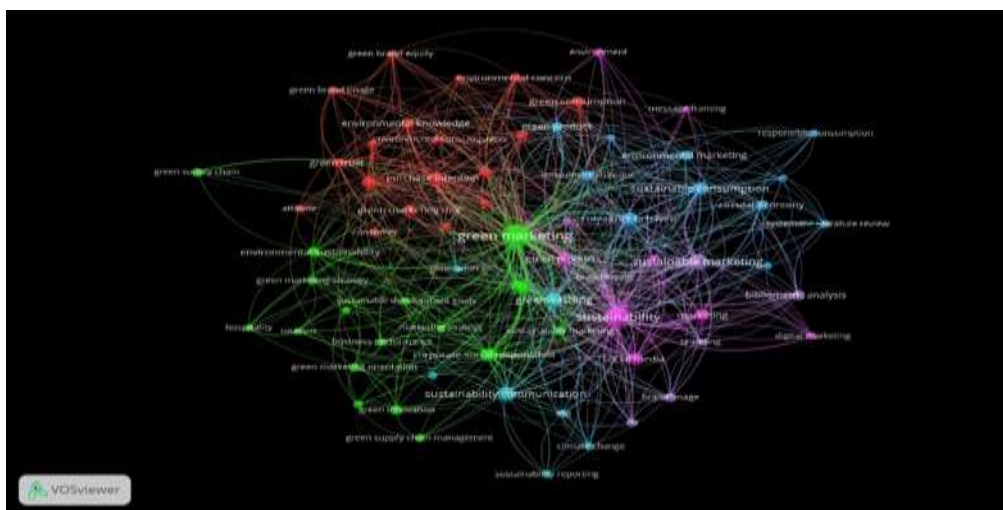


Figure 4. Co-occurrence network map of the authors' keywords

Source: Map generated in VOSviewer using WOS Core Collection

A co-occurrence analysis of the authors' keywords suggests that 3875 unique keywords had been used by the researchers in this field, out of which 69 met the threshold. In other words, 69 keywords appeared at least 9 times in all the records (co-occurrence threshold was chosen to be 9). This resulted in 7 clusters, however, later on, only 1 keyword was manually removed which was "pls-sem". At last, 69 items/keywords which met the threshold of minimum 9 occurrences contain 6 clusters as shown in the above map (Figure 4). Here, each color represents a unique cluster. Furthermore, the size of each ball indicates a strong network.

Table 1.

Number of keywords in each cluster and the frequency of their occurrences

Clusters	Items	Occurrences
1	18	336
2	17	643
3	11	239
4	8	373
5	7	198
6	7	202
Total	68	1991

Source: Authors' work

As shown in the Table 1, there are 6 clusters as a result of the co-occurrence analysis. Cluster 1 which is the most dominant consist of 18 items, has a diverse range of keywords - mainly related to green consumption and consumer attitude. The third highest number of occurrences for this cluster clearly show that this is an emerging theme. This is followed by Cluster 2 which has 17 keywords. It is important to emphasize that it has the

highest frequency of occurrences and consists of items such as green marketing, green innovation, SDGs, CSR etc. This implies that it is the core of green marketing literature and represents an already mature research subtopic. Cluster 4 consists of multi-disciplinary and fast-growing thematic areas such as the keyword sustainability with the highest frequency of occurrences within this cluster. Besides, Cluster 5 follows the same lead as it is also expanding, however it is more specialized and the most frequently co-occurring keywords in this cluster are sustainable marketing, bibliometric analysis and brand image. Interestingly, this cluster also suggests that there are more and more bibliometric studies conducted on this subject, potentially because of the increased attention that it has received in the recent years as well as a spike in environmental issues such as climate change. In this context, green marketing evolved as a mainstream marketing strategy to combat these problems. Finally, Cluster 6 focuses more on aspects that are not necessarily the core of green marketing but are relevant concerns that emerge along with adoption of green marketing as a strategy. Sustainability communication, greenwashing and climate change most frequently appeared keywords within this cluster.

CONCLUSIONS

In conclusion, out of the 1365 records chosen for this bibliometric study, majority are published in China and India, which shows that Asian countries have increased contribution in the academic literature of this thematic area. Besides, the recent publishing trends also shed light on the fact that the number of papers that are being published annually about green marketing are increasing gradually. Moreover, majority of the papers about green marketing that are published between the year 2020 and 2025 and indexed in WOS, belong to Business Economics research area. This shows that most often, authors view green marketing through market-oriented lens and as a business strategy to be integrated in a firm. At last, the co-occurrence analysis conducted on the authors' keywords of selected papers resulted in 6 clusters and a total of 69 unique items, which concentrated on distinct thematic areas. The keyword "green marketing" appears in the Cluster 2 and had the highest frequency of co-occurrence. This could be explained by the fact that the main query, which was introduced at the beginning to find the relevant records, consisted of green marketing and its synonyms. Therefore, to conclude, green marketing is an emerging, multi-disciplinary topic in the research field of business economics.

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