

Green Marketing: A Comprehensive Bibliometric Analysis and Current Trends

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Abstract

In recent years, there has been a growing interest in green marketing research that can be traced through the abundance of published literature on the topic. However, there is still a lack of comprehensive and systematic research focusing on the evolution of this field. The main objective of this paper was to consolidate the state-of-the-art research on green marketing through a bibliometric study of articles published from 2014 to 2024 and to analyze and present the results. According to the research it was found out that green marketing is a trend nowadays and its citation index, as well as several articles, is growing rapidly. The analysis shows that sustainability-focused topics such as **green marketing**, **sustainable development**, and **consumption behavior** are on the rise, with key discussions peaking around **2022**. These trends are reshaping industries and consumer habits. While **supply chain management** and **decision-making** may have started earlier, the overall picture reveals a growing commitment to sustainability that is becoming central to business strategies and consumer choices. This trend is likely to continue, and the focus on sustainability will only become more important in the coming years.

Keywords: Bibliometric green marketing; ecological marketing; sustainable marketing; environmental marketing

Introduction

Since companies are working to solve the growing environmental and social problems associated with traditional marketing methods, green marketing has become an interesting topic for attention both in business and academic circles. Green marketing, which is usually understood as the marketing of goods and services based on ecological advantages, has become an integral part of ethical corporate practice aimed at reducing environmental damage. This strategy places a strong emphasis on environmentally friendly methods, such as ethical production, sustainable supply, and responsible consumption, all of which meet the growing public demand for more environmentally friendly alternatives to conventional goods and services. Over the past decades, environmental sustainability has risen at the top of the international political agenda and has been recognized as a key driver of innovation (Dangelico and Vocalelli, 2017). Consumers are increasingly looking for natural goods to live more sustainably and healthily in recent years. As a result, firms have begun aligning their strategies with sustainability by emphasizing their production of natural products that are both beneficial for health and environmentally sustainable (Alhamad, 2023).

Companies and consumers alike have adopted green marketing as a means of promoting goods and services that support environmental well-being and meet the global goals of sustainable development in response to pressing issues such as climate change, resource depletion and the need for sustainable development. Taking into account the rapid development and expansion of green marketing, scientists strive to learn more about how it appeared, evaluate the effectiveness of various approaches and determine the elements that influence its adoption in various sectors. If the companies want to implement green marketing in their businesses, they must first ensure their products genuinely offer environmental benefits (Taktakishvili and Sachaleli, 2023).

This model shows how the marketing paradigm has shifted from profit-oriented to a more balanced one that takes into account how corporate operations affect the environment. Consequently, corporate social responsibility (CSR) strategies have adopted green marketing, which often forms the basis of larger initiatives aimed at ethical and sustainable business practice. Even with its widespread use, green marketing is still a complex and multidimensional idea, which is influenced by a number of variables, such as customer attitudes, laws, technologies and cultural trends.

To understand the dynamics affecting this area of research, it is now extremely important to analyze the academic literature on green marketing

methods and identify important trends and changes. This study offers a thorough bibliometric analysis of the research on green marketing, highlighting key topics, seminal works and new developments in this area.

This study is aimed at illustrating the development of green marketing research by looking at publication and citation trends. The scientific environment of green marketing is explored in the article and the practical consequences of the research results are considered. In an attempt to reduce the gap between theory and reality, we study how current trends in green marketing correspond to actual changes in consumer behavior, legal frameworks and business practices.

This study gives a comprehensive overview of how green marketing has expanded, including not only environmental activism, but also economic and social factors, by compiling a graph of its development using bibliometrics. With the help of this analysis, we aim to expand knowledge about how green marketing can be used to promote a sustainable future, offering both theoretical support and useful advice to stakeholders involved in the green movement.

State on Knowledge

Green marketing still represents a marketing area and commercial practice to be studied further and there are many research gaps to be filled. This area has grown significantly over the last decade.

Definition, scope and importance of green marketing

Green marketing points out the importance of the minimum negative results for the environment. It influences all aspects of marketing, which relate to products and production (Peattie, 1995). Green marketing is popular for addressing issues related to the general public, such as climate change, scarce resources and other responsibilities towards the wider society.

Green branding, eco-marking, sustainable packaging and ethical communication tactics are part of the modern green marketing mix (Ottman, 2011). Unlike traditional marketing, green marketing asks for freedom in how to balance financial problems with ecological problems. This trend emphasized the importance of trust and openness in initiatives of green marketing.

Historical development and evolution of green marketing research

In the 1970s, consumers and politicians became more aware of environmental problems, and basic ecology marketing and started campaigns to save the environment. In the 1980s and 1990s, the awareness in this area grew and new demands from the side of consumers emerged as well (Peattie and Crane, 2005; Peattie, 2001).

More and more consumers have an attitude toward environmentally friendly products and are also ready to pay more for ecologically safe alternatives.

At the beginning of the century, research on green marketing expanded and began to include such subjects as corporate social responsibility (CO), reporting on sustainable development and ethical consumption (Leonidou et al. 2013).

Scholars indicate the effectiveness of green advertising, skepticism of irresponsible consumption and the potential effectiveness of green marketing.

Methodologies and analytical approaches in green marketing research

Green marketing research uses a variety of approaches to understand the elements that influence both consumer and corporate behavior. Surveys are often used to gather information about consumer attitudes, willingness to pay for green products and the impact of certain marketing messages. These studies often use quantitative methods to identify correlations and patterns in consumer responses (D'Souza et al. 2006).

Experimental designs have grown in popularity in recent years, allowing researchers to study the impact of green marketing interventions, such as specific claims or labeling, on consumer perceptions and purchasing behavior. Experimental research also sheds light on the psychological mechanisms that influence consumer responses to green marketing messages, such as perceived brand authenticity and environmental concerns.

Qualitative methods such as case studies and interviews have been widely used to explore green marketing practices at the company level. These studies include detailed information of how firms adopt and disseminate sustainable practices, often highlighting the difficulties of achieving real sustainability while maintaining corporate goals. Another important tool is content analysis, which is particularly useful when researching green advertising and branding.

Recently, bibliometric analysis has become an important method for tracking the growth of the green marketing literature, allowing researchers to examine citation trends, identify influential publications and identify emerging research clusters. This strategy proved particularly useful for analyzing how the subject of green marketing has evolved over time and identifying disciplinary connections (Dangelico and Vocalelli, 2017).

Main themes and research clusters in the field of green marketing

Recent bibliometric studies have identified many key themes and research directions in green marketing. These include consumer attitudes and behavior, green product development, corporate social responsibility (CSR), green branding and advertising and regulatory aspects.

Consumer attitude and behavior. Consumer attitudes toward green products have long been a focus of green marketing research. Research in this cluster focuses on understanding environmental awareness, perceived product quality and social impact as drivers of consumer preferences for green products. Many studies examine how demographic factors such as age, income and education influence people's willingness to engage in sustainable consumption.

Green product development refers to the development of products with a low environmental impact, from the extraction of environmentally friendly components to the reduction of waste and energy consumption during production. This cluster includes research in the areas of sustainable innovation, product life cycle assessment and the role of eco-design in reducing environmental damage. Researchers in this field are also exploring how to balance sustainable design with practicality, aesthetics and cost-effectiveness.

Corporate Social Responsibility and Sustainability Reporting. CSR is inextricably linked to green marketing and many businesses have incorporated sustainability reporting into their CSR initiatives. This part of the study examines how CSR actions can improve brand image and consumer trust, especially when corporations are vocal about their environmental impact. This topic also addresses issues such as stakeholder engagement and the use of sustainability metrics to track progress.

Green branding and advertising. These are important strategies for promoting a company's environmental commitment. This part of the study examines the effectiveness of various green advertising tactics, the impact of green branding on consumer perceptions and the risks of greenwashing.

Consumers are often wary of ambiguous or exaggerated green promises, so research in this area emphasizes the need for authenticity in green advertising.

Regulatory aspects and policy implications. This part of the study examines how environmental regulations and standards affect green marketing strategies. Research shows that public policy plays an important role in supporting green innovation and helping corporations comply with environmental regulations.

Trends and new topics in green marketing

The digital platform has changed the green marketing method, replacing ecological companies that are environmentally aware of customers with social media, e-commerce and digital advertising. This is what focuses on them, as companies use digital platforms for productivity, creating products that create well-known brands.

Companies can use all access based on insights to target customers who shop uniquely and environmentally. There is more interest in the green consumer. As ecological problems continue to appear in the global agenda, it is expected that green marketing remains an active area of research with prospects for additional research in AI and cross-cultural research.

Green marketing is the practice of promoting products or services that are environmentally friendly or have a positive impact on the planet. It involves incorporating sustainability principles into various aspects of marketing, such as product design, packaging, messaging, and promotion. Some green marketing strategies include:

- Creating eco-friendly products
- Using eco-friendly product packaging made from recycled materials
- Reducing greenhouse gas emissions from production processes
- Adopting sustainable business practices
- Marketing efforts communicating a product's environmental benefits
- Investing profits in renewable energy or carbon offset efforts

Green marketing is becoming more popular as more people become concerned with environmental issues. Indeed, in 2020, more than three-quarters of consumers (77%) cited a brand's sustainability and environmental responsibility as very important or moderately important in their choice of brands.

In recent years, sustainability has emerged as a significant challenge for the business sector, particularly in the retail industry. Business owners continue to harbor doubts about producing sustainable products, as it requires adjustments to their product segment and marketing strategies (Taktakishvili and Sachaleli, 2024).

Material and Method

Progress, trends and significant research in the field of green marketing were evaluated in this study. A quantitative method of academic assessment, bibliometric analysis, allows one to carry out a thorough study of the results of research, networks of cooperation and developing topics. Scopus, which contains the most widely distributed literature, shows that it is a bibliometric study that contains a large number of indicators.

We filtered articles that were specifically devoted to green marketing, using such keywords as "green marketing". The filter was used to refine our data set and remove articles that were not relevant.

A bibliometric analysis using R biblioshiny was used to create visual representations of relationships in the literature. With these tools, we were able to create networks and maps that graphically represent cooperation models and

research trends. Several specialized bibliometric approaches were used in the analysis to obtain a complex picture of the focus and organization of the area.

We used the following important metrics and methodologies for studying the dynamics of green marketing research:

Annual scientific production: to evaluate the progress and productivity of research over the course of time, we looked at the number of articles published annually. This measure sheds light on the evolution of the research area and determines the periods when interest in research in this particular area has grown.

The most global cited documents: we conducted a citation analysis to determine the number of cited articles to identify the most significant research. This allowed us to spot important works and key contributors whose research has shaped the research area significantly.

Co-occurrence network: to find the most frequently occurring related keywords in the data set, an analysis of the co-occurrence network of keywords was carried out. By looking at how frequently defined terms appear together, this method identifies recurring themes and draws attention to new themes.

Factorial analysis (world map): the global distribution of the productivity of research in the area of green marketing was displayed using factorial analysis.

Most frequent words: Analysis of the most frequently used words across the dataset helped us to spot important topics and emerging concepts in the area of green marketing research. This kind of analysis highlights the primary areas of focus and trends in the research over time.

Thematic map: In order to categorize research topics and visually demonstrate their relationships, a thematic map was given. This map structures the area of the research into clusters, making it easier to identify important and emerging topics and also show the conceptual structure of the research in the area of green marketing.

Cloud of words: To graphically display the prevalence of important terms in literature, we created a cloud of words. The cloud of words gives a clear, concise summary of the key ideas of the topic and more large terms denote ideas that are stressed more often.

Trends: we conducted an analysis of trends to see how research topics changed over time, finding changes in thematic direction.

Although this study provides a detailed overview of the state of green marketing research, it has some limitations. Analysis may not include relevant studies from non-indexed publications. Moreover, as the vocabulary changes over time, the keywords chosen for data collection may not cover all aspects of green marketing. Despite these shortcomings, this bibliometric method

provides a clear understanding of subject composition, and patterns and fruitful research that guides further research in green marketing.

Results and Discussions

Unique Insights and Emerging Trends in Green Marketing

This bibliometric study presents several key insights and emerging trends that differentiate it from prior research. One of the most notable findings is the remarkable acceleration in green marketing research, particularly from 2022 to 2024, with an annual growth rate of 97% in scholarly publications. This surge underscores the increasing significance of sustainability in business and consumer behavior, signaling a shift in both academic focus and corporate strategies.

The study identifies a strong correlation between green marketing, sustainable development, and sales growth, suggesting that sustainability is becoming an essential driver of business performance. The findings indicate that as companies intensify their green marketing efforts, consumer demand for sustainable products continues to rise, leading to tangible commercial benefits. This highlights the transition of green marketing from an ethical imperative to a competitive advantage in the marketplace.

Another distinctive contribution of this research is the mapping of key research clusters in green marketing. While earlier studies focused predominantly on branding and advertising, recent trends show a shift toward supply chain sustainability and strategic decision-making. The increasing emphasis on sustainable supply chains reflects a deeper commitment to environmental responsibility, moving beyond marketing rhetoric to actionable corporate practices.

Furthermore, the study highlights the growing influence of digital platforms in green marketing, as businesses leverage e-commerce, social media, and AI-driven strategies to reach environmentally conscious consumers. This shift demonstrates how technological advancements are reshaping the way sustainability is communicated and integrated into business models, making green marketing more data-driven, transparent, and personalized.

Additionally, the research underscores the rise of consumer skepticism regarding green claims, reinforcing the need for authenticity in corporate sustainability initiatives. As awareness of greenwashing grows, consumers demand greater transparency and verifiable environmental commitments from businesses. This has led to a shift from superficial green branding to more evidence-based sustainability practices, where companies must substantiate their claims with measurable actions and third-party certifications.

These insights contribute to a deeper understanding of how green marketing is evolving, providing a comprehensive perspective on its trajectory and reinforcing its role as a fundamental aspect of sustainable business practices. The findings suggest that the focus on sustainability will only intensify in the coming years, further embedding environmental considerations into corporate decision-making, regulatory frameworks, and consumer preferences.

Bibliometric analysis review:

Annual Growth Rate (97%): A remarkable growth rate indicates a surge in interest in green marketing in recent years. From 2014 to 2024, the number of publications has almost doubled every year, which could signal a rapidly expanding academic interest, industry adoption, or both.

Average Citations per Document (23.15): This suggests that green marketing research is not only growing in volume but also in academic impact. These articles are being cited, indicating they contribute to the ongoing discourse around sustainable business practices.

Table 1. Scopus filters

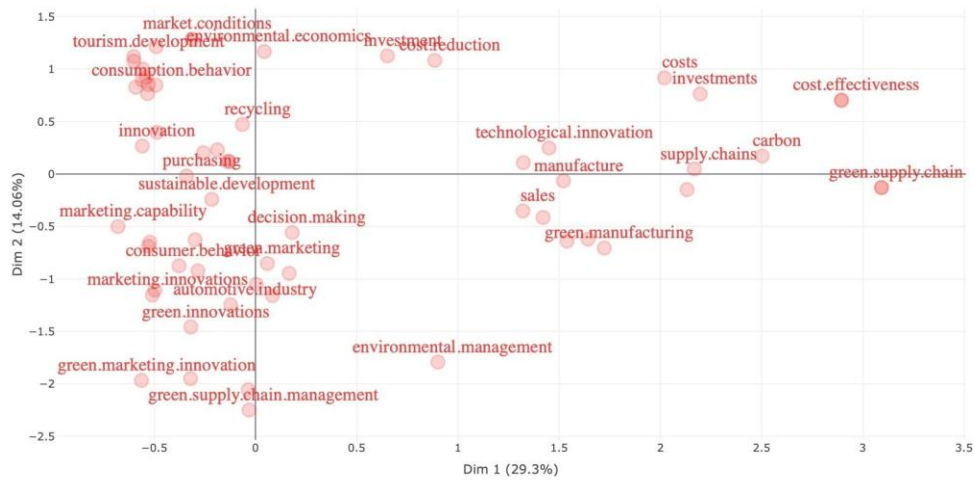
Title	green AND marketing
Timespan	2014:2024
Documents	270
Document Type	Article
Annual Growth Rate %	Dec.97
Average citations per doc	23.15
Subject area	Business Management and Economics

Note. Authors' according to the research

Rapid Growth of articles in 2022–2024

2022 (36 articles), 2023 (38 articles), and 2024 (44 articles): The publication numbers grow steadily in these years, showing a significant expansion of the green marketing field. This can be attributed to the increased global awareness of climate issues, heightened demand for green products, and increased regulatory attention on environmental claims. As businesses prioritize sustainability, research in this area is likely to continue flourishing.

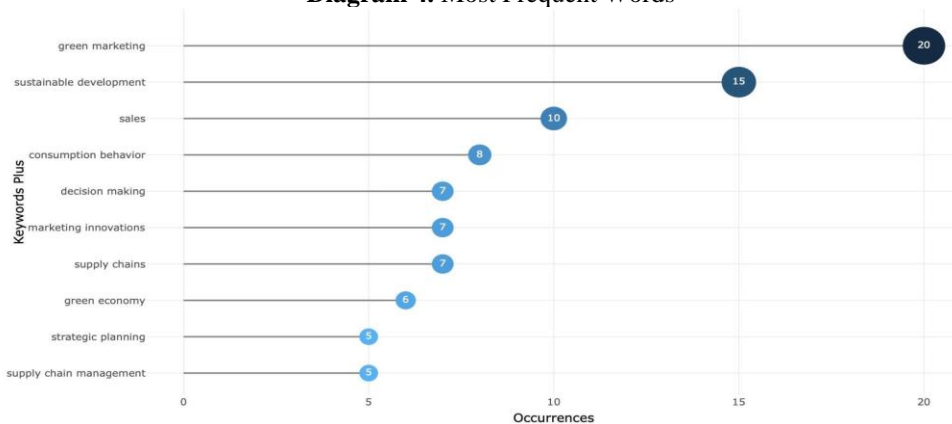
Diagram 3. Factorial Analysis (world map)



Note. Authors' according to the research

The most frequent words according to the research were: green marketing, sustainable development, sales and consumer behavior (See, the diagram 4).

Diagram 4. Most Frequent Words



Note. Authors' according to the research

Figure 10 is a bubble chart titled "Development degree of sustainable strategy". The Y-axis represents "Development degree (Density)" and the X-axis represents "Relevance degree (Centrality)". The chart is divided into four quadrants by dashed lines: "Niche Themes" (top-left), "Motor Themes" (top-right), "Emerging or Declining Themes" (bottom-left), and "Basic Themes" (bottom-right). The bubbles represent different themes, with their size indicating density and their position indicating centrality. The themes are as follows:

- Niche Themes:** advertising, green advertising, purchasing.
- Motor Themes:** competition, waste disposal, environmental protection, cost effectiveness, cost sharing, contracts, costs, supply chain, management, environmental economics, carbon.
- Emerging or Declining Themes:** ecotourism, tourist destination, planning, strategic approach, retailing, consumption behavior, green economy, green innovations.
- Basic Themes:** green marketing, sustainable development, decision making.

A small icon of a person holding a magnifying glass is located in the bottom right corner of the chart.

Image 1. Word Cloud



Based on the provided table, we can analyze the data in terms of trends, correlations, and the overall relationship between key factors (green marketing, sustainable development, sales, consumption behavior, and decision-making) over the years.

Key Trends according to the analysis (table 2):

1. Growth in Green Marketing:

The most significant growth over the period is in **Green Marketing**, which jumps from **0 in 2014** to **20 in 2024**.

- This suggests that over the years, businesses and organizations have increasingly prioritized environmentally friendly or sustainable marketing initiatives. The increase may reflect growing consumer awareness of environmental issues, as well as a broader push for companies to demonstrate corporate responsibility and attract environmentally conscious consumers.

2. Sustainable Development:

- There is also a clear upward trajectory in Sustainable Development efforts, from 1 in 2014 to 15 in 2024.
- Sustainable development might refer to initiatives related to sustainability in production, supply chains, or business practices. The steady increase shows how the global focus on environmental sustainability and climate action has influenced businesses to adopt more sustainable practices.

3. Sales Growth:

- Sales increased from 0 in 2014 to 10 in 2024, with noticeable spikes in years like 2021 and 2022.
- The correlation between increasing green marketing and sustainable development and rising sales suggests that consumers are responding to sustainable products and services. This growth reflects the increasing demand for green products, driven by consumer interest in sustainability and eco-friendly options.

4. Consumption Behavior:

- Consumption Behavior shows steady growth from 0 in 2014 to 8 in 2024.
- This indicates a gradual shift in consumer habits toward more sustainable consumption choices. Over time, consumers have become more conscious of the environmental impact of their purchases, which is reflected in their behavior.

5. Decision-Making Influence:

- Decision-making (whether consumer or business decisions) grew from 0 in 2014 to 7 in 2024.
- The data suggests that sustainability increasingly influences decision-making, with both businesses and consumers prioritizing sustainability when making choices. This is likely related to the rise of green marketing, consumer education, and societal pressures for more responsible business practices.

Year-by-Year Breakdown:

2014–2017:

- These early years show relatively slow growth across all variables. Green marketing and sustainable development are just beginning to take hold. Sales and consumption behavior are still minimal, likely due to the nascent stage of sustainability awareness and corporate responsibility.

2018–2020:

- From 2018 onwards, there is a noticeable increase across all factors. Green marketing and sustainable development efforts begin to scale significantly.
- Sales and consumption behavior began to show more substantial growth during this period, signaling that consumer interest in sustainability is starting to drive market trends.
- The increase in decision-making during this period indicates that sustainability is becoming a more significant factor in both consumer and business choices.

2021–2024:

- The years between 2021 and 2024 show the most rapid growth in green marketing, sustainable development, and related factors. By 2024, green marketing has reached its peak, and consumer behavior and decision-making reflect a deepening commitment to sustainability.
- The total numbers for each factor in 2024 show a fully mature shift toward sustainability-focused actions, with green marketing (20) and sustainable development (15) leading the way.

Correlations:

1. Green Marketing and Sales:

- There is a clear correlation between the increase in Green Marketing and the increase in Sales. The more businesses invest in marketing their green or sustainable products, the higher the sales seem to be. This suggests that sustainability-focused marketing strategies resonate with consumers and drive purchase decisions.

2. Sustainable Development and Consumption Behavior:

- As sustainable development efforts grow, we see a corresponding increase in Consumption Behavior. This may indicate that businesses adopting sustainable practices influence consumer habits. As companies offer more sustainable products or services, consumers are more likely to change their purchasing behavior to align with their values.

3. Decision-Making:

- Decision-making appears to be influenced by both Green Marketing and Sustainable Development. This trend reflects how environmental considerations are shaping both corporate and consumer decisions. In the later years, it's clear that sustainable practices are influencing choices, from the products people buy to the strategies businesses adopt.

Total Summary:

- Over the 10-year period, all categories show substantial growth, with Green Marketing and Sustainable Development showing the highest increases. The data indicates that sustainability has become an integral part of business strategy, consumer behavior, and market trends.
- The total numbers (82 for green marketing, 63 for sustainable development, etc.) suggest that sustainability has progressively become a priority for businesses and consumers alike, with a marked acceleration in the last five years.

Table 2. Words Mentioned in the articles – by year

Year	GREEN MARKETING	SUSTAINABLE DEVELOPMENT	SALES	CONSUMPTION BEHAVIOR	DECISION MAKING
2014	0	1	0	0	0
2015	1	1	0	1	1
2016	3	2	1	1	2
2017	3	3	1	1	2
2018	3	3	2	1	2
2019	5	4	2	2	3
2020	5	5	3	3	4
2021	8	6	5	4	5
2022	16	10	6	5	6
2023	18	13	8	8	7
2024	20	15	10	8	7
total	82	63	38	34	39

Note. Authors' according to the research

According to the table 3, key trends and observations are:

1. Overall Growth in All Categories:

- Every category shows an increase over time, with the most notable growth in Supply Chains, Supply Chain Management, and Green Economy.

- The total frequency for each term at the end of the period indicates substantial growth in the importance of these topics, reflecting broader shifts in business strategies and global trends.

2. Year-by-Year Trends:

2014–2017:

- Marketing Innovations, Green Economy, and Strategic Planning appear relatively infrequently in these early years.
- Supply Chains and Supply Chain Management start to show up in 2015, indicating an initial recognition of the importance of these concepts, especially in the context of global business dynamics.

2018–2020:

- Marketing Innovations begins to show consistent growth from 2018 onward, reaching 1 by 2017 and rising further in 2022 (7 instances).
- Supply Chains sees a steady increase, with 2021 marking a significant jump to 4. The global supply chain disruptions (such as those caused by the COVID-19 pandemic) likely contributed to the heightened focus on this topic.
- Green Economy and Strategic Planning remain steady but show some incremental growth by 2020.
- Supply Chain Management also grows incrementally each year, with a significant rise by 2021 (3 instances).

2021–2024:

- Supply Chains and Supply Chain Management peak in 2023–2024, aligning with continued global supply chain disruptions and challenges, including those caused by the pandemic and geopolitical issues.
- Green Economy and Marketing Innovations show notable increases, with both reaching their highest levels by 2022 and maintaining those levels into 2024.
- Strategic Planning sees moderate growth, with a peak at 5 in 2024, indicating a growing recognition of the need for long-term, sustainable strategies.

Total Frequency (2024):

- **Supply Chains** (32) and **Supply Chain Management** (29) have the highest total frequencies, reflecting the critical role these topics play in business operations and the global economy, particularly as companies navigate challenges in logistics, procurement, and production.

- Marketing Innovations (26) and Green Economy (19) follow closely behind, showing that sustainability and innovation are key drivers in shaping modern business practices.
- Strategic Planning (16) has the lowest frequency, but still shows steady growth over the period.

Detailed Analysis of Each Term:

1. Marketing Innovations (26):

- Trend: Marketing innovations show a steady rise, particularly in the latter years of the period (2021-2024).
- Significance: The increase in marketing innovations could reflect businesses adopting new, more sustainable ways of marketing, possibly integrating digital tools, customer experience improvements, and sustainability-focused marketing strategies. The sharp rise in 2022 (7) and 2023-2024 could indicate that businesses are actively shifting their marketing strategies to align with new consumer expectations and trends, particularly in the context of sustainability.
- Key Insight: Marketing is becoming a more important strategic focus, especially as businesses integrate environmental considerations into their brand narratives.

2. Supply Chains (32):

- Trend: Supply Chains shows a steady increase, reaching its highest levels in 2023-2024. The term is virtually nonexistent in 2014 and grows significantly by 2017-2024.
- Significance: The importance of supply chains has surged in recent years due to global challenges, such as the COVID-19 pandemic, which disrupted manufacturing, transportation, and procurement. This may also reflect the increasing need for companies to improve resilience and sustainability in their supply chains, especially with the rising emphasis on environmental responsibility.
- Key Insight: The rising frequency of supply chains shows that businesses are becoming more aware of the vulnerabilities and opportunities in their supply networks, and are working on strengthening them to ensure continuity and sustainability.

3. Green Economy (19):

- Trend: The Green Economy sees a steady but slow increase, peaking at 6 in 2023 and maintaining that level in 2024.
- **Significance:** The growth of the green economy reflects the increasing focus on sustainable economic growth. This includes efforts to reduce carbon emissions, promote clean energy, and shift toward circular

economies. The rise of this term aligns with growing global movements for environmental sustainability and climate action.

- Key Insight: The green economy is becoming a significant part of corporate strategy, influencing everything from investment decisions to product offerings and market positioning. Businesses and governments are increasingly pushing for a transition to greener, more sustainable economic models.

4. Strategic Planning (16):

- Trend: Strategic Planning has a moderate rise over time, with the most notable increases occurring in the latter half of the period (especially in 2022 and 2023).
- Significance: Strategic planning is a key factor in long-term business success. As sustainability becomes more central to business operations, strategic planning processes are evolving to incorporate environmental, social, and governance (ESG) considerations. The rise in frequency after 2020 could reflect a growing recognition that sustainable growth requires careful, long-term planning.
- Key Insight: Businesses are increasingly recognizing the need for strategic planning that integrates sustainability, risk management, and innovation to ensure long-term success.

5. Supply Chain Management (29):

- Trend: Supply Chain Management also shows consistent growth, peaking at 7 in 2023 and maintaining that level in 2024.
- Significance: As with Supply Chains, Supply Chain Management has grown in importance due to disruptions and the need for companies to optimize operations, reduce costs, and increase sustainability. The focus on supply chain management likely includes strategies for improving efficiency, transparency, sustainability, and resilience.
- Key Insight: Supply chain management is evolving from a purely operational function to a strategic one, with a strong emphasis on sustainability, risk management, and ethical sourcing practices.

Correlations and Relationships:

1. Marketing Innovations & Green Economy:

- As Marketing Innovations increase, so does the focus on the Green Economy. Businesses are likely to use innovative marketing strategies to promote their sustainability efforts, products, or services that align with the green economy.

- Key Insight: The adoption of innovative marketing practices is closely linked to the growing demand for sustainable, eco-friendly products and services.

2. Supply Chains & Supply Chain Management:

- Both Supply Chains and Supply Chain Management show similar growth patterns, indicating that businesses are increasingly focusing on the optimization and sustainability of their supply chains, alongside efforts to improve resilience and efficiency.
- Key Insight: The growing importance of Supply Chain Management reflects a strategic shift to ensure that supply chains not only operate efficiently but also meet sustainability goals.

3. Strategic Planning & Supply Chain Management:

- Strategic Planning and Supply Chain Management have a positive correlation, as businesses increasingly recognize that effective supply chain management must be a central element of their overall strategic planning.
- Key Insight: Businesses are aligning their long-term strategies with the need for agile, sustainable supply chains that can withstand global disruptions.

Table 3. Words Mentioned in the articles – by year

Year	MARKETING INNOVATIONS	SUPPLY CHAINS	GREEN ECONOMY	STRATEGIC PLANNING	SUPPLY CHAIN MANAGEMENT
2014	0	0	0	0	0
2015	0	1	0	0	1
2016	0	1	0	0	2
2017	1	1	0	0	2
2018	1	2	0	0	2
2019	1	2	0	1	2
2020	1	2	0	1	2
2021	1	4	2	1	3
2022	7	5	5	4	5
2023	7	7	6	4	5
2024	7	7	6	5	5
total	26	32	19	16	29

Note. Authors' according to the research

After analyzing table 3, it has been found that:

1. Frequency of Terms:

- Green Marketing has the highest frequency (20), indicating that it is the most discussed or emphasized term over the period. This likely reflects the growing importance of sustainable marketing strategies in businesses.
- Sustainable Development and Consumption Behavior come next, with 15 and 8 mentions, respectively. These terms show that sustainability is not just a marketing strategy but also a broad, strategic focus on business operations and consumer habits.
- Decision Making (7) and Supply Chain Management (5) are mentioned less frequently, but they still represent important aspects of the sustainability transition, especially in terms of how companies make choices based on sustainability and how their supply chains are evolving.

2. Year (Q1) – Earliest Appearance:

- Decision Making started to appear in 2018, suggesting that businesses began focusing on sustainability in decision-making around this time. This may correlate with the broader trends in environmental awareness that were becoming more prominent globally.
- Supply Chain Management started earlier, in 2016, indicating that discussions about sustainable or ethical supply chain practices have been happening for a longer period. This could be linked to the earlier stages of global awareness about the environmental impact of supply chains.
- Green Marketing, Sustainable Development, and Consumption Behavior all started appearing in 2020, reflecting the recent surge in sustainability-focused initiatives.

3. Year (Median) – Middle Year:

- For most terms, the Median year is 2022, except for Supply Chain Management, which shifts to 2021.
- The median year represents the middle point of the discussion about each topic. For terms like Green Marketing and Sustainable Development, this suggest that these topics gained substantial momentum during this period.
- Supply Chain Management hitting its median in 2021 indicates that this topic became more central a bit earlier than others, likely due to growing global concerns around the ethical and environmental impact of supply chains, especially after the COVID-19 pandemic and supply chain disruptions.

4. Year (Q3) – Latest Appearance:

- The Q3 (latest) year for all terms is 2022 or 2023, showing that discussions on these topics are still quite active and ongoing, but with a tendency to peak around 2022.
- The terms that span until 2023 (e.g., Sustainable Development and Consumption Behavior) indicate that the momentum for these issues is continuing into the near future, reflecting a longer-term shift toward sustainability in business practices and consumer behavior.

Trend Analysis:

1. Sustainability as a Growing Focus:

- The rising frequency of terms like Green Marketing, Sustainable Development, and Consumption Behavior over the years points to an increasing awareness and action towards sustainability. These topics began to rise noticeably around 2020, coinciding with the global acceleration of sustainability efforts, as businesses and consumers began to place more emphasis on environmentally friendly practices.

2. Green Marketing's Central Role:

- Green Marketing stands out as the most discussed term. With a peak in 2020 and continued activity through 2022, it highlights the importance of marketing strategies that align with sustainability. Companies are increasingly aware that promoting their sustainability efforts is a competitive advantage.

3. Decision Making and Supply Chain Management as Strategic Factors:

- Decision Making and Supply Chain Management have relatively lower frequencies, but these terms highlight the deeper strategic integration of sustainability. For decision-making, the focus has been on how businesses incorporate sustainability in their choices, while supply chain management concerns have been about ensuring that companies' supply chains align with sustainability principles.
- Both terms show increasing importance around 2020–2022, reflecting how businesses are rethinking their processes and making decisions based on sustainability concerns.

4. Sustainability is Becoming Mainstream:

- The terms Sustainable Development and Consumption Behavior appearing in 2020 and continuing through 2023 show that sustainability has moved from a niche concern to a mainstream practice. Companies are considering not just their products and services, but how sustainability is embedded in their entire business model, from sourcing to consumption.

5. Continued Growth:

- The fact that all these terms reach their Q3 by 2022 or 2023 suggests that sustainability remains a top priority. The discussions are likely to continue and evolve, especially as environmental challenges become more pressing and regulations around sustainability tighten.

Implications:

1. For Businesses:

- Companies need to continue embracing Green Marketing and Sustainable Development in their strategies. The shift towards sustainability is not just a passing trend but a long-term business imperative.
- Companies should also focus on Supply Chain Management and decision-making processes to ensure that their operations are not only profitable but also sustainable and ethically responsible.
- Consumption Behavior indicates that businesses should align their offerings with consumer preferences for sustainability.

2. For Consumers:

- Consumers are becoming more conscious of sustainability, and their Consumption Behavior reflects this. Companies must meet this demand by offering more sustainable products and services, making environmental and ethical considerations part of their decision-making processes.

3. For Policymakers and Advocacy Groups:

- The data highlights that sustainability issues are increasingly central to business and consumer behavior. Policymakers should consider the importance of supporting businesses in adopting sustainable practices and encouraging consumers to make environmentally conscious decisions.

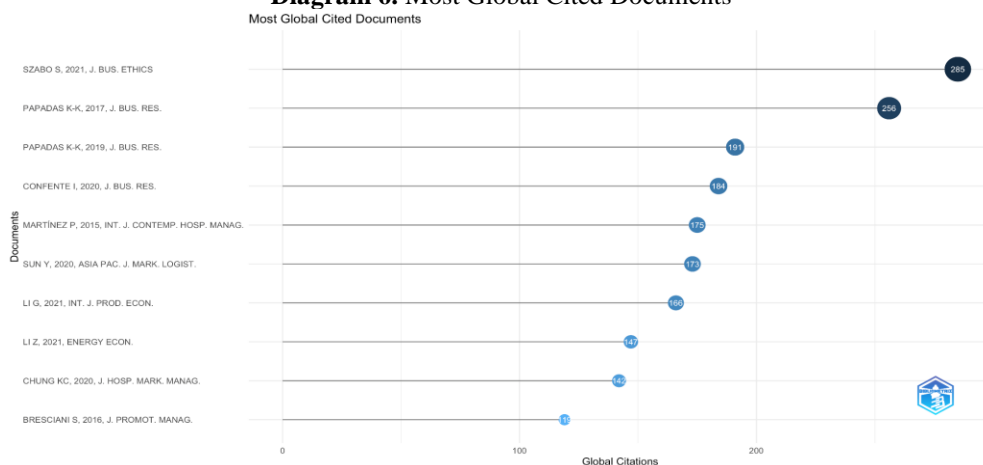
Table 4. Trend Topics

Term	Frequency	Year (Q1)	Year (Median)	Year (Q3)
decision making	7	2018	2020	2022
supply chain management	5	2016	2021	2022
green marketing	20	2020	2022	2022
sustainable development	15	2020	2022	2023
consumption behavior	8	2020	2022	2023

Note. Authors' according to the research

To most cited author according to diagram 6, appeared Szabo s 2021, with 285 citations, and Papadas K-K 2017, with 256 citations.

Diagram 6. Most Global Cited Documents



Note. Authors' according to the research

Conclusion

The findings of bibliometric analysis indicate that the highest number of green marketing publications have been published since 2022.

1. Sustainability is increasingly central to both marketing strategies and consumer decisions.
2. The growth of green marketing and sustainable development initiatives correlates strongly with rising sales and changing consumption behavior, indicating that sustainability is now a competitive advantage in the marketplace.
3. Decision-making has evolved to incorporate sustainability, reflecting a broader societal trend towards environmental responsibility.
4. Over time, consumers have become more conscious of the environmental impact of their choices, which has directly influenced business strategies in marketing and product development.
5. Supply Chain Management and Supply Chains are central to modern business strategies, reflecting the increased need for businesses to build resilient and sustainable supply networks.
6. Green Economy and Marketing Innovations are growing in prominence, showing that businesses are leveraging sustainable practices to create value and meet changing consumer expectations.
7. Strategic Planning is evolving to integrate sustainability as a key factor in long-term business success.

According to the research, sustainability is not just a passing trend but a long-term shift in both consumer behavior and business practices. The future likely holds an even greater emphasis on sustainability as it becomes an expected standard rather than a competitive differentiator.

The data demonstrates a clear trend towards sustainability, resilience, and innovation becoming central to business operations, especially in the context of global disruptions and shifting market demands. These areas are not only growing in importance but are also becoming integral to how businesses plan and execute their strategies for long-term success.

The analysis shows that sustainability-focused topics such as green marketing, sustainable development, and consumption behavior are on the rise, with key discussions peaking around 2022. These trends are reshaping industries and consumer habits. While supply chain management and decision-making may have started earlier, the overall picture reveals a growing commitment to sustainability that is becoming central to business strategies and consumer choices. This trend is likely to continue, and the focus on sustainability will only deepen in the coming years.

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