# The Evolution of Green Consumerism: A Bibliometric Study of Consumer Behavior in the Context of Sustainability

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**ABSTRACT**

This study investigates the intellectual evolution and structural dynamics of green consumerism through a bibliometric analysis of 1,252 publications indexed in the Scopus database from 2000 to 2024. Using VOSviewer, the analysis maps the conceptual structure, author co-citation patterns, and international collaboration networks in the context of sustainable consumption and consumer behavior. The findings highlight green consumerism, sustainable development, green marketing, and consumption behavior as central themes, indicating a strong intersection between behavioral intention models and marketing strategies in driving eco-conscious purchasing. The temporal overlay reveals a shift from early studies on environmental concern and policy to more recent emphases on sustainable consumption, willingness to pay, and environmental economics. Key authors such as Ajzen, Stern, and Dunlap form the theoretical backbone of the field, while countries like the United States, India, and the United Kingdom emerge as dominant contributors in global research collaboration. The study offers insights into the maturity, diversification, and emerging frontiers of green consumerism, paving the way for future interdisciplinary exploration into digital sustainability, behavioral interventions, and systemic policy integration.

***Keywords:*** *Green consumerism, Sustainable consumption, Consumer behavior, Bibliometric analysis, VOSviewer.*

## INTRODUCTION

The increasing awareness of environmental degradation and climate change has given rise to significant shifts in consumer behavior, with a growing segment of individuals demonstrating a preference for environmentally friendly products and practices. This shift, known as green consumerism, reflects the willingness of consumers to prioritize sustainability in their purchasing decisions. Over the past two decades, this phenomenon has evolved from a fringe concern into a central theme within marketing, public policy, and sustainability discourse [1]. Green consumerism encompasses a range of behaviors, from choosing eco-labeled products and reducing single-use plastics to supporting ethical and locally produced goods. Its emergence is not only a reflection of individual values but also a response to broader systemic calls for ecological responsibility and climate action [2], [3].

Green consumerism is deeply intertwined with global sustainability movements and policy agendas. International frameworks such as the United Nations Sustainable Development Goals (SDGs), especially Goal 12 on responsible consumption and production, have accelerated the need to understand and encourage sustainable consumer practices [4]. Governments and corporations alike are adapting to the increasing demand for environmentally responsible goods, spurred by consumer activism and increased environmental literacy. As a result, green marketing has become a strategic imperative for many brands seeking to differentiate themselves and align with consumer values [5]. This shift has also stimulated scholarly interest across disciplines including environmental psychology, consumer behavior, and sustainable marketing.

The body of literature on green consumerism has expanded rapidly, resulting in a rich but fragmented knowledge base. Researchers have examined diverse aspects such as consumer attitudes, willingness to pay for green products, behavioral intention gaps, and cultural or demographic influences on eco-friendly consumption [6]. However, the field remains complex due to variations in terminologies, theoretical frameworks, and methodological approaches. The need for a systematic analysis of the intellectual landscape of green consumerism is thus crucial to mapping how knowledge in this area has evolved, identifying core themes, and understanding the trajectory of academic discourse over time.

Bibliometric analysis offers a robust methodology for quantitatively assessing the structure and dynamics of academic literature. Through the use of tools such as VOSviewer and Bibliometrix, it is possible to visualize citation patterns, co-authorship networks, keyword co-occurrences, and thematic evolution [7]. In the context of green consumerism, a bibliometric approach can help reveal dominant research clusters, influential scholars and institutions, and geographic trends in publication outputs. Moreover, it can shed light on how concepts such as environmental consciousness, sustainable consumption, ethical purchasing, and green branding have gained prominence or shifted in meaning over time. As concerns about planetary boundaries and sustainable futures become more urgent, it is critical to reflect on how academic discourse has responded to the challenges and opportunities of green consumerism. Understanding the intellectual development of this field can inform more effective policy, business strategies, and consumer education efforts. It also aids scholars in identifying research gaps and opportunities for interdisciplinary collaboration. By examining the bibliometric patterns of green consumerism studies, we gain a clearer picture of where the field stands today and how it might evolve to address future sustainability challenges.

Despite the exponential growth of research on green consumerism, there has been limited effort to comprehensively synthesize and map its intellectual landscape through systematic bibliometric methods. Existing literature reviews often focus on conceptual or thematic analysis without capturing the structural development, influential contributions, and citation networks that shape the field's evolution. Consequently, researchers and practitioners may lack a coherent understanding of the main knowledge domains, emerging trends, and the evolution of key concepts within green consumerism. This fragmentation poses challenges in advancing theory, fostering interdisciplinary dialogue, and guiding evidence-based policy or business decisions related to sustainable consumption. This study aims to conduct a comprehensive bibliometric analysis of the literature on green consumerism, focusing on consumer behavior within the broader context of sustainability.

## METHOD

This study employs a bibliometric analysis to systematically map and analyze the intellectual structure and evolution of research on green consumerism, particularly in relation to consumer behavior and sustainability. Bibliometric analysis is a quantitative method widely used to assess the development of scholarly literature through publication trends, citation patterns, co-authorship, and keyword co-occurrence [8]. It provides objective insights into how a field of study evolves over time, the key contributors, and the conceptual relationships between emerging themes.

The bibliographic data for this study were retrieved from the Scopus database, which is known for its broad multidisciplinary coverage and high indexing quality. The search was conducted using a comprehensive and strategically constructed query to capture relevant articles related to green consumerism and sustainability-oriented consumer behavior. The following Boolean expression was used: ("green consumer*" OR "sustainable consumer*" OR "eco-friendly consumption" OR "green purchasing behavior" OR "environmental consumer behavior") AND ("sustainability" OR "sustainable development"). The search was limited to journal articles, conference papers, and reviews published between 2000 and 2024. Only English-language

publications were included to ensure consistency in the analysis. After removing duplicates and non-relevant records based on title and abstract screening, a total of 1,252 publications were selected for bibliometric analysis.

VOSviewer (version 1.6.x) was employed to conduct a series of visual bibliometric analyses. This software specializes in constructing and visualizing bibliometric maps based on citation data and textual co-occurrence information. Before analysis, the raw bibliographic data were processed using VOSviewer's internal thesaurus function to merge synonymous terms, unify variations in author names and institution names, and exclude generic or irrelevant terms. This step ensured the consistency and interpretability of visualized networks and clusters.
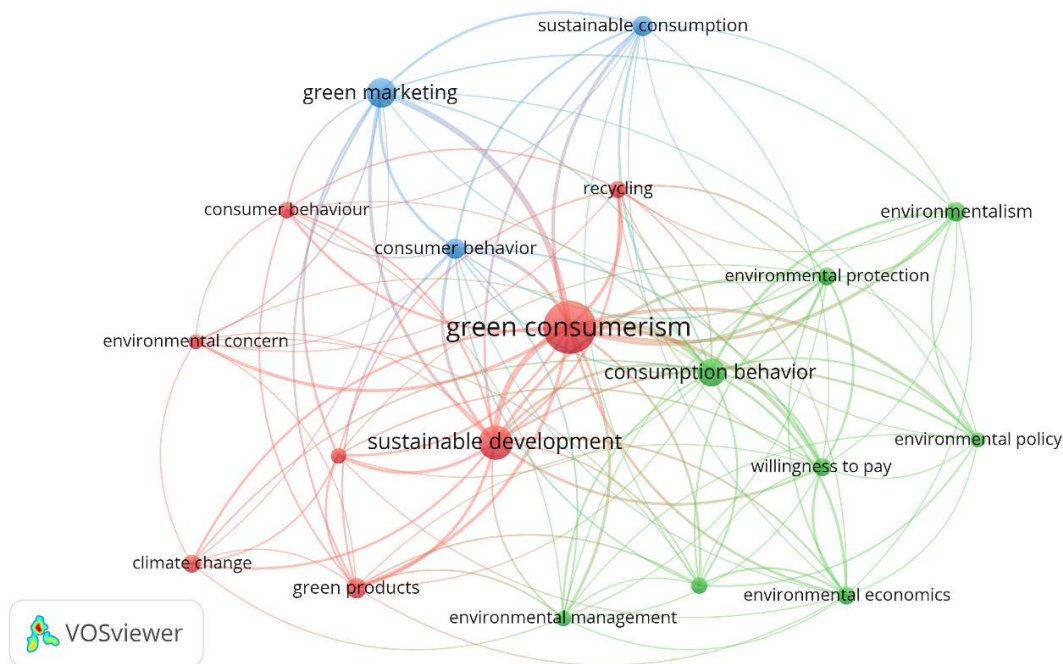
## RESULT

### Keyword Co-Occurrence Network



Figure 1. Network Visualization
Source: Data Analysis

The network visualization provided reveals the keyword co-occurrence map for the field of green consumerism, based on bibliographic data. Each node represents a keyword used in academic publications, and the size of the node corresponds to the frequency of its appearance. The thickness of the connecting lines (edges) indicates the strength of co-occurrence between keywords, and the different colors represent distinct clusters or thematic groupings derived from co-occurrence patterns. At the center of the map is the term "green consumerism", shown as the largest and most connected node. This centrality indicates that it is the dominant concept and primary focus in the literature analyzed. Closely linked to it are other major keywords such as consumption behavior, sustainable development, and consumer behavior, suggesting that the discourse on green consumerism is integrally tied to how consumers behave in relation to sustainability goals. These terms form a dense core cluster (in red) that represents the foundational discussion around sustainable consumption practices and behavioral intentions.

The green cluster on the right side of the map is composed of keywords related to environmental policy, environmental economics, protection, and management. This indicates a policy- and governance-oriented subdomain of green consumerism, focusing on how macro-level interventions and environmental frameworks influence or are influenced by consumer behavior.

Keywords such as willingness to pay also link this cluster back to the central theme, signifying interest in the economic dimensions of consumer choices. The blue cluster, including green marketing, sustainable consumption, and consumer behaviour (with British spelling), forms another coherent theme focusing on the market and communication aspects of sustainability. This cluster reflects the role of strategic branding, eco-labeling, and promotional efforts in shaping green purchasing decisions. Its connections to the core concepts suggest that marketing strategies are both influenced by and influencers of green consumer attitudes and actions.

The red cluster, in addition to the central core, extends toward terms like recycling, green products, climate change, and environmental concern, highlighting the individual action and awareness dimension of green consumerism. This reflects research that emphasizes personal responsibility, perception of environmental issues, and specific consumer practices such as product choices and waste reduction. The integration of climate-related concerns into this cluster underscores the growing link between environmental anxiety and pro-environmental behaviors.
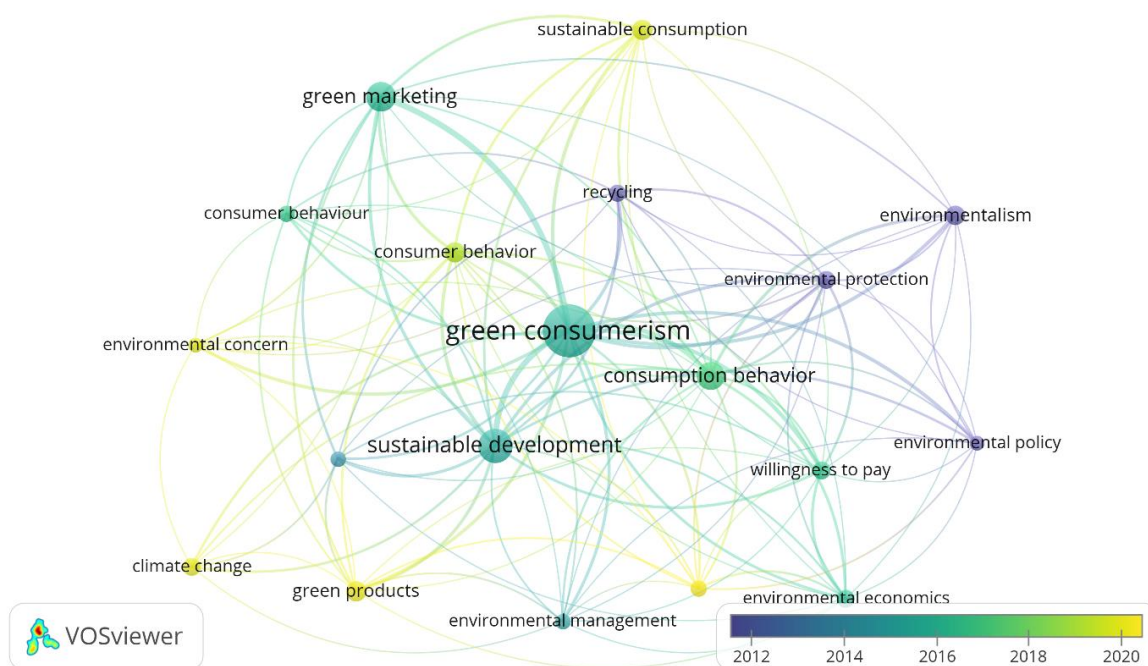


Figure 2. Overlay Visualization
Source: Data Analysis

The overlay visualization map illustrates the temporal evolution of key themes in green consumerism research, using color gradients to represent the average publication year associated with each keyword. The central and most frequently occurring keyword, green consumerism, appears in a medium green tone, indicating it has been consistently studied between 2016 and 2018, forming the thematic backbone of the field. Closely linked nodes such as consumption behavior, green marketing, and sustainable development share similar hues, showing that these topics have been core components of the literature throughout the mid-2010s. Emerging and more recent keywords appear in yellow, suggesting newer areas of focus. Notably, sustainable consumption, consumer behavior (with American spelling), and green products are in yellow-green shades, indicating increased attention in the late 2018 to 2020 period. These keywords reflect a shift in scholarly interest toward actionable aspects of consumer choice and product innovation in response to climate change and sustainability pressures. The presence of terms like willingness to pay and environmental management in lighter colors suggests a more recent integration of economic and managerial perspectives into the discussion of sustainable consumption behavior. Conversely, darker blue and violet nodes such as environmentalism, environmental protection, and environmental policy denote earlier research themes, commonly explored around 2012–2014. These

topics likely represent the foundational environmental discourse that preceded the behavioral and marketing-focused approaches. Their peripheral placement on the map also implies a declining trend in isolated policy or ideological studies, as attention has increasingly shifted toward integrated, consumer-centered frameworks.
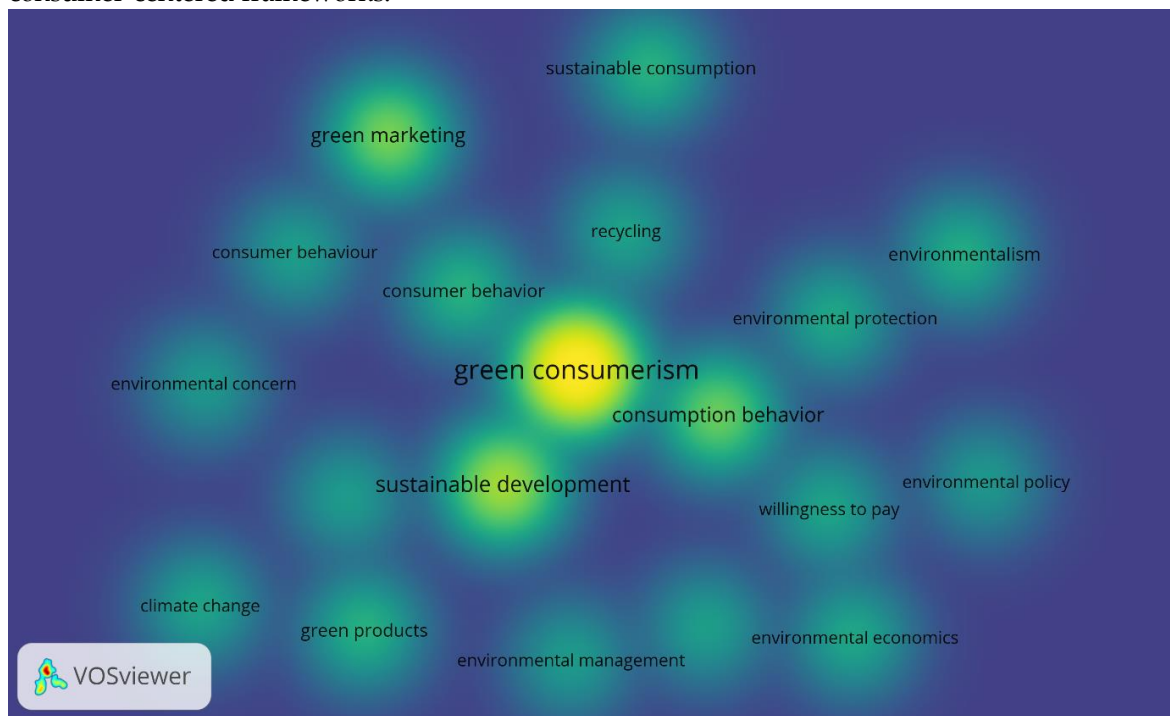


Figure 3. Density Visualization
Source: Data Analysis

The density visualization highlights the intensity and frequency of keyword usage in the literature on green consumerism. The color gradient, ranging from dark blue (low frequency) to bright yellow (high frequency), indicates the relative prominence of specific terms within the academic corpus. At the center, green consumerism appears in bright yellow, signifying it as the most dominant and frequently co-occurring term in the dataset. Surrounding this core are other highly active keywords such as consumption behavior, sustainable development, and green marketing, shown in green to light yellow tones. This reflects the strong centrality and integrative role these concepts play in structuring the discourse on sustainable consumer practices. Peripheral keywords like climate change, environmental policy, environmental economics, and recycling appear in cooler green or blue-green shades, indicating moderate relevance and thematic support to the core topics. Their positions suggest they are part of complementary but slightly less frequent discussions. The spread and density of hotspots across the map illustrate a multidisciplinary convergence, where environmental science, behavioral studies, economics, and marketing intersect.

**Citation Analysis**

Table 1. Most Cited Article

| Citations | Author and Year | Title |
|---|---|---|
| 794 | [9] | Authentic™: The politics of ambivalence in a brand culture |
| 663 | [10] | Do green products make us better people? |
| 517 | [4] | Motivational complexity of green consumerism |
| 434 | [11] | To buy or not to buy? A social dilemma perspective on green buying |
| 416 | [12] | Hotel customers' environmentally responsible behavioral intention: Impact of key constructs on decision in green consumerism |
| 410 | [13] | Social acceptance of renewable energy sources: A review of contingent valuation applications |

| 404 | [14] | Examining green consumerism motivational drivers: Does premium price and demographics matter to green purchasing? |
| 401 | [15] | Sustainable consumption and production for Asia: Sustainability through green design and practice |
| 352 | [16] | Hotels' environmental policies and employee personal environmental beliefs: Interactions and outcomes |
| 339 | [17] | A critical appraisal of Sustainable Consumption and Production research: The reformist, revolutionary and reconfiguration positions |

Source: Scopus, 2025
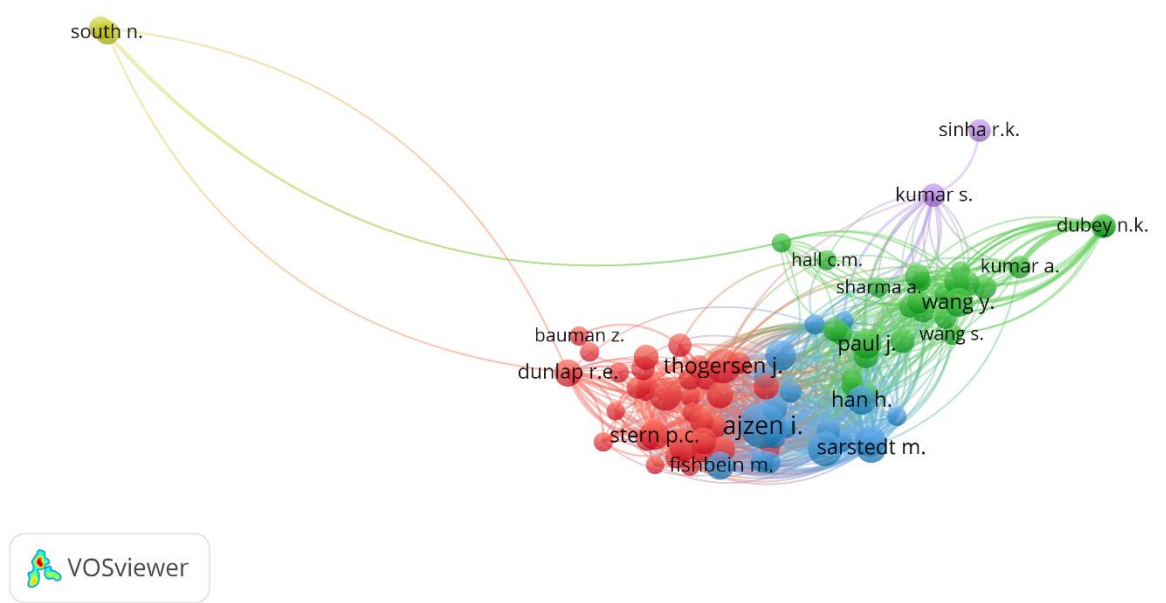
**Co-Authorship Analysis**



Figure 4. Author Visualization
Source: Data Analysis

The author co-citation network visualized in this map reveals the intellectual structure and influential scholars within the green consumerism literature. The nodes represent authors, with their size corresponding to the frequency with which they are co-cited, while the connecting lines indicate the strength of co-citation relationships. Prominent figures like Ajzen I., Thøgersen J., Stern P.C., Dunlap R.E., and Paul J. occupy central positions, highlighting their foundational roles in shaping theoretical and empirical work—particularly in the domains of environmental psychology, behavioral intention models (e.g., Theory of Planned Behavior), and pro-environmental behavior. The clusters indicate thematic subfields: the red cluster centers on foundational theorists in environmental behavior; the green cluster includes contemporary authors contributing to sustainability marketing and green supply chain topics (e.g., Dubey N.K., Wang Y.); while the blue cluster includes methodologists and behavior modelers like Fishbein M. and Sarstedt M.. Isolated authors such as South N. and Sinha R.K. suggest more specialized or less frequently co-cited contributions.
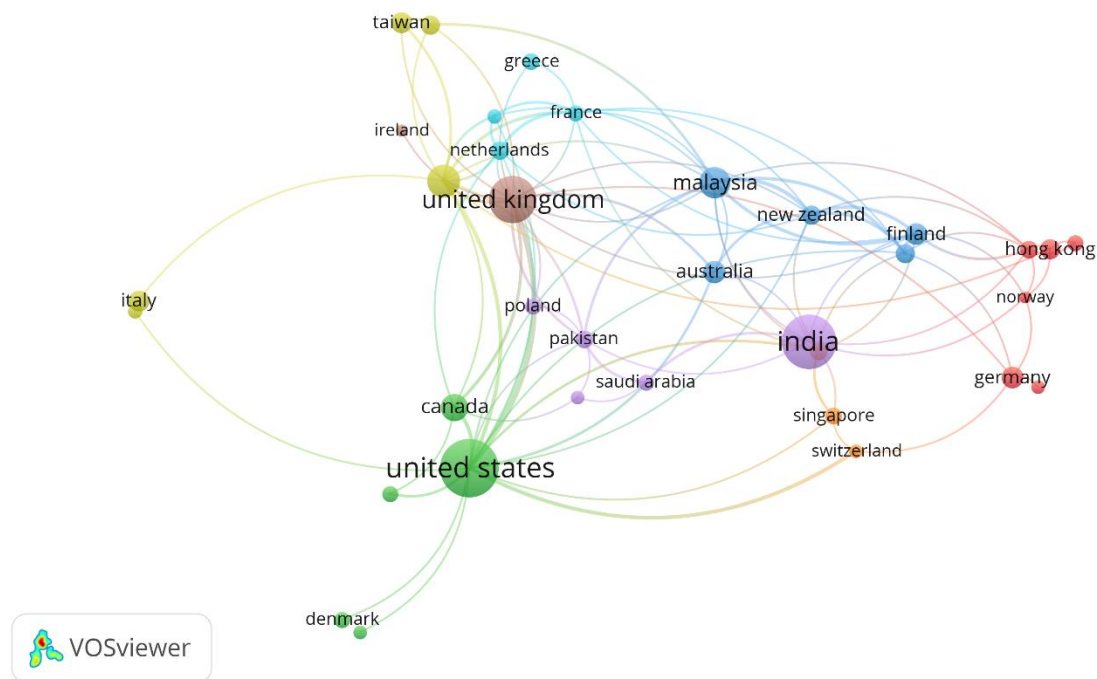
Figure 5. Country Visualization
Source: Data Analysis

The country co-authorship network visualizes international collaboration patterns in the field of green consumerism research. Each node represents a country, with node size reflecting publication volume and link thickness denoting the strength of collaborative ties. The United States, India, and the United Kingdom emerge as the most prominent contributors, evidenced by their large node sizes and dense interconnections with other countries. The United States shows extensive collaboration, particularly with Canada, the UK, India, and Australia. India demonstrates increasing scholarly influence with strong links to Malaysia, Singapore, and Pakistan, reflecting its growing role in sustainability and consumer research in the Global South. Meanwhile, European countries like Germany, Netherlands, France, and Finland cluster tightly, indicating robust intra-European cooperation. Regions such as Hong Kong, Norway, and Switzerland also appear actively engaged, though somewhat less central.

## DISCUSSION

**Central Themes and Conceptual Structure**

At the core of the green consumerism literature lies a tight nexus of keywords such as green consumerism, consumption behavior, sustainable development, green marketing, and consumer behavior. These terms represent the foundational themes that define the field. The density and frequency of these keywords, as evidenced in the density map, suggest their consistent and central presence across the two-decade research landscape. These themes are strongly interconnected, indicating that green consumerism cannot be viewed in isolation, it is inherently linked to how consumers make choices, how marketing strategies evolve to reflect sustainability priorities, and how sustainable development goals permeate market ideologies.

The conceptual map revealed three dominant clusters: (1) green consumer behavior and awareness, (2) market-oriented strategies such as green marketing and product labeling, and (3) institutional and policy frameworks, including environmental economics and protection. These clusters show a clear multidisciplinary integration of psychology, economics, management, and environmental science. Particularly, the presence of willingness to pay, recycling, and green

products in the central conceptual structure underscores the behavioral economic dimension of the field, wherein consumers' valuation of environmental benefits is analyzed as a driver of sustainable choices.

**Temporal Shifts and Emerging Trends**

The overlay visualization indicates a temporal evolution of research focus. In the early 2010s, much of the literature focused on foundational constructs such as environmentalism, environmental policy, and environmental protection. These topics, shown in darker hues, reflect the early ideological and regulatory debates around ecological responsibility. During this period, scholars concentrated on defining what it meant to be a "green" consumer and identifying the attitudinal precursors of environmental concern. As the field progressed toward the late 2010s and early 2020s, attention shifted to more applied and consumer-centric themes, such as green marketing, consumer behavior, green products, and sustainable consumption. These newer themes, represented in yellow-green hues, signal the increasing importance of corporate and individual agency in sustainable transitions. The focus moved from understanding environmental concern in abstract terms to influencing actual purchasing behavior and shaping demand through strategic marketing and product innovation. Emerging keywords like sustainable consumption and environmental management highlight a paradigm shift toward institutionalizing sustainable practices and embedding sustainability within corporate operations and consumer choice architectures. This shift also reflects a response to global sustainability agendas, such as the UN Sustainable Development Goals, and the need to operationalize sustainability at every level of the consumption process.

**Author Influence and Theoretical Foundations**

The author co-citation analysis further enriches the understanding of the intellectual foundations of green consumerism. Key figures such as Icek Ajzen, Paul C. Stern, Robert E. Dunlap, and Michael Fishbein dominate the network, confirming the strong psychological underpinnings of the field. Ajzen's Theory of Planned Behavior (TPB), which emphasizes attitudes, subjective norms, and perceived behavioral control, remains a primary framework for analyzing green purchasing decisions. Similarly, Stern's work on environmentally significant behavior and Dunlap's New Ecological Paradigm (NEP) scale provide crucial tools for understanding and measuring environmental concern. More recent scholars such as Paul J., Sarstedt M., and Dubey N.K. represent the evolving focus toward quantitative modeling, sustainability performance, and green supply chain management. Their work bridges traditional consumer behavior theories with advanced statistical and managerial approaches. The dispersion of author clusters, from psychological models to managerial applications, demonstrates a broadening theoretical base, enhancing the field's relevance to both academia and practice. Interestingly, the appearance of isolated nodes, such as South N., suggests some niche or pioneering contributions that, while not heavily co-cited, have bridged disciplinary boundaries or introduced new directions. These authors may represent voices from sociology, ethics, or technology studies, pointing toward the interdisciplinary potential of future green consumerism research.

**Global Collaboration Patterns**

The country co-authorship network reveals that research on green consumerism is truly global in nature. The United States, India, and the United Kingdom emerge as central players, each with distinct regional influence. The United States shows widespread collaboration, particularly with Canada, Australia, and various European countries, highlighting its long-standing leadership in environmental and behavioral research. India's prominence is noteworthy, as it reflects the growing research output from the Global South in sustainability and green consumer behavior. Indian scholars have increasingly contributed to empirical studies in emerging markets, particularly regarding barriers to green consumption, consumer literacy, and socio-economic constraints. Their collaboration with countries like Malaysia, Singapore, and Saudi Arabia indicates the formation of new regional hubs of sustainability research in Asia. European countries such as Germany, Netherlands, Finland, and France maintain close academic networks, often focused on policy innovation, environmental economics, and sustainable development. These networks suggest strong

institutional support for interdisciplinary and collaborative research on sustainability. The presence of countries like Hong Kong, New Zealand, and Taiwan further emphasizes the transnational nature of sustainability concerns, particularly in urbanized and rapidly developing economies.

**Research Gaps and Future Directions**

Despite the growth and richness of the field, several gaps remain. First, there is a clear need for more research in digital and technological interfaces of green consumerism. While traditional models such as TPB and green marketing remain dominant, limited work has explored how AI, blockchain, or e-commerce platforms influence sustainable consumption patterns. Second, there is room to expand the cultural dimension of green consumerism, especially in underrepresented regions such as Latin America and Sub-Saharan Africa. Moreover, while the literature acknowledges the attitude-behavior gap, few studies delve deeply into interventions that can close this gap, such as nudges, feedback mechanisms, and behavioral design. Future studies can benefit from incorporating experimental and real-world behavioral data to understand how sustainable choices are made in practice, not just in intention. There is an opportunity to integrate systems thinking into the analysis of green consumerism. Most current research focuses on individual or firm-level behavior. However, to truly understand the dynamics of sustainable consumption, scholars must also consider supply chains, social norms, policy environments, and ecological feedback loops. Interdisciplinary collaborations that combine behavioral science, data analytics, and environmental systems modeling will be essential moving forward.

## CONCLUSION

This bibliometric study of green consumerism reveals a rapidly evolving and multidisciplinary research field that has expanded significantly over the past two decades. By analyzing 1,252 Scopus-indexed publications using VOSviewer, the study identifies key thematic clusters, influential scholars, emerging trends, and international collaboration patterns. Central to the discourse are recurring concepts such as consumption behavior, sustainable development, and green marketing, which together underscore the behavioral and strategic dimensions of sustainability. The field has shifted from early ideological and policy-driven discussions toward more applied studies that explore consumer decision-making, marketing innovation, and willingness to pay for eco-friendly products. Influential authors like Ajzen, Stern, and Dunlap have shaped the theoretical foundations, while newer contributors are pushing the boundaries toward data-driven and global perspectives. The rise of collaboration among countries such as the United States, India, and the United Kingdom reflects a broadening international engagement with sustainability challenges. Despite its maturity, the field continues to offer avenues for future research, particularly in areas such as digital green behavior, behavioral intervention design, and systemic approaches to sustainable consumption.

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