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Mapping the Intention–Behavior Gap in Green Product Consumption: A Bibliometric Analysis

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Abstract

This study conducts a comprehensive bibliometric analysis of the intention–behavior gap in green product consumption, focusing on the intellectual, conceptual and thematic evolution of the field. Data were collected from the Scopus and Web of Science (WoS) databases for the period 2009–2025, resulting in a final dataset of 88 relevant publications after a systematic screening process guided by the PRISMA framework. The bibliometric analysis was performed using Biblioshiny (R Bibliometrix package), encompassing both performance indicators such as publication trends, citation impact and authorship productivity and scientific mapping approaches, including keyword co-occurrence, thematic evolution and collaboration networks. The results reveal a significant increase in scholarly attention to the intention–behavior gap in recent years, with core themes centering on sustainable consumption, green purchase intention, and behavioral models, alongside emerging areas such as digital transformation, green marketing strategies and behavioral interventions. Moreover, the study identifies critical research gaps, emphasizing the need for deeper cross-cultural analyses, longitudinal studies, and integration of advanced behavioral theories to better understand consumer decision-making. These findings provide valuable insights into the development of the field and offer a foundation for advancing both academic research and practical strategies to bridge the intention–behavior gap in sustainable consumption.

Keywords: Intention-behavior gap, Green products, Sustainable consumption, Bibliometric analysis.

1 | Introduction

Over the past few decades, the global market has experienced a surge in environmentally conscious products, characterized by sustainable material sourcing, energy-efficient manufacturing, and end-of-life recyclability (Bulut, Çımrin, Doğan, 2017 and OECD, 2008). These products range from biodegradable cleaning agents and organically produced foods to energy-saving appliances and electric vehicles, reflecting an expanding spectrum of industries that now market their offerings based on environmental performance (Peattie, Collins, 2009). The increasing popularity of "green" products is fueled by greater environmental consciousness among consumers, amplified public discussions about climate change, and the influence of governmental regulations and corporate responsibility initiatives that prioritize sustainability in both production and consumption practices (OECD, 2008 and Bulut et al., 2017). Surveys in various national contexts consistently reveal high levels of consumer intention to purchase green products, suggesting that a considerable segment of the population values aligning personal consumption with environmental principles (Redman, 2013 and Young, Hwang, McDonald, Oates, 2010). Even though people say they want to buy green products, they don't always do it. This difference between what people say and what they actually do is called the "intention-behavior gap" in green product consumption (Redman, 2013 and Carrington, Neville, Whitwell, 2014). This gap highlights the discrepancy between consumers stated preferences for green products and their actual purchasing behavior in real-world

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scenarios (Young et al., 2010 and Joshi, Rahman, 2015). For instance, a consumer may express support for organic agriculture yet opt for conventionally produced vegetables due to price considerations, or may praise the environmental benefits of electric cars yet purchase a petrol-powered vehicle because of perceived convenience or cost (Carrington et al., 2014 and Young et al., 2010).

Researchers have identified several interconnected obstacles that contribute to this discrepancy, beginning with economic limitations (Stevens, 2010). Green products frequently carry a higher price tag than their conventional alternatives, owing to factors such as expenses associated with certifications, smaller-scale production runs, and the utilization of superior, sustainable materials. Because of the higher prices, even people who care about the environment might not buy green products if they don't have much money (Stevens, 2010 and OECD, 2008). Accessibility and availability also play a crucial role, it's important that people can actually get these products. If green products aren't sold in many stores or don't have good ways to get them to customers, it's harder for people to find and buy them (Autio, Heiskanen, Heinonen, 2009). In addition to structural barriers, psychological factors influence decision-making. Some consumers question if green products measure up to the quality, durability, or effectiveness of standard options, causing hesitation despite positive intentions (Durif, Roy, Boivin, 2012). Compounding these concerns is the issue of greenwashing, This involves misleading or overstated environmental claims, which erodes consumer trust and raises doubts about the truthfulness of green marketing (Chen, Chang, 2013). Socio-demographic factors also shape both green product purchase intentions and behaviors, with gender frequently emerging as a significant predictor (Bulut et al., 2017). Studies have shown that women often care more about the environment and buy more green products than men. This is because of how they're raised, how they see their role in the home, and how much they worry about environmental risks (Lee, 2009). Other demographic variables such as education, age and income also influence green purchasing although their effects can vary across contexts (D'Souza, Taghian, Lamb, Peretiatkos, 2007 and Thondhlana, Kua, 2016). Despite these insights, many policy interventions and marketing campaigns addressing green product consumption adopt broad, non-targeted approaches, potentially missing opportunities to leverage demographic-specific motivators (Gough, 2016).

The academic literature has been done on some people don't follow through on their intentions to buy green products. This research comes from various fields, including consumer behaviour, environmental psychology, marketing and business management (Joshi, Rahman, 2015 and Carrington et al., 2014). While numerous empirical studies and conceptual papers have explored various aspects of the gap from consumer perceptions to market strategies there has been limited effort to systematically map the field as a whole. Bibliometric analysis offers a valuable solution to this challenge by providing quantitative methods for examining large volumes of academic literature revealing publication trends, identifying the most influential authors and institutions and uncovering thematic clusters that define the intellectual structure of a research (Caiado, Leal Filho, Quelhas, de Mattos Nascimento, Ávila, 2017 and Donthu, Kumar, Mukherjee, Pandey, Lim, 2021). Tools like VOSviewer, CiteSpace and R Bibliometrix help show how research topics change, how people work together and new areas of study (Aria, Cuccurullo, 2017 and Donthu et al., 2021).

While the intention-behavior gap is a recognized area of significance there is a relative scarcity of bibliometric analyses explicitly focused on this phenomenon. Moreover the incorporation of socio-demographic variables such as gender within the mapping process remains limited. (Bulut et al., 2017 and Lee, 2009). This research undertakes a comprehensive bibliometric analysis of the intention-behavior gap in the context of green product consumption. The primary objectives are to document the growth and distribution of scholarly output; identify the most prolific authors, institutions and countries; map the thematic evolution of the field and assess the representation of demographic factors in this literature. The findings of this study are intended to inform the development of more effective marketing strategies, policy frameworks and educational campaigns. Ultimately this work seeks to enhance both academic understanding of consumer decision-making in environmental contexts and provide actionable insights for practitioners aiming to foster greater alignment between consumer intentions and sustainable purchasing behaviors (Caiado et al., 2017 and Donthu et al., 2021).

Research Questions:

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1) Which authors, institutions and journals have been the most prolific and influential in advancing the field of green product consumption and the intention–behavior gap as determined by publication output, citation impact and productivity indicators?
2) What are the key intellectual foundations and thematic structures of the literature on the intention–behavior gap in green product consumption and how have these themes evolved over time as revealed through co-citation analysis, keyword co-occurrence and thematic clustering?

To address the research questions this study applies a bibliometric methodology, an established and scientifically validated approach for quantitatively analyzing scholarly literature (Aria, Cuccurullo, 2017 and Donthu, Kumar, Mukherjee, Pandey, Lim, 2021). The analysis targets the evolution, intellectual structure and thematic development of research on the intention–behavior gap in green product consumption. The methodological framework is built upon two main components: **performance analysis** and **scientific mapping**. Performance analysis assesses scholarly productivity and influence by examining publication counts, citation metrics, prolific authors, institutional contributions and journal outlets (Merigó, Yang, 2017). Science mapping in contrast explores the conceptual and thematic structure of the field through techniques such as keyword co-occurrence, citation network analysis and thematic evolution mapping (Cobo, López-Herrera, Herrera-Viedma, Herrera, 2011). Together these complementary approaches highlight the most influential contributors, dominant research themes and interconnected networks within the academic discourse. Ultimately the results provide a comprehensive understanding of the development of literature on the intention–behavior gap, while also identifying prevailing trends and revealing underexplored areas that may guide future research directions (Donthu et al., 2021 and Zupic, Čater, 2015).

2 | Research Methodology

This study uses a bibliometric analysis gathering data from the Scopus and WOS databases. This data is then analyzed using R software (Biblioshiny, version 4.5.1).

2.1 | Bibliographic Databases for Literature Retrieval

This study employs Scopus and Web of Science (WoS) as the primary sources of bibliographic data because of their broad coverage of peer-reviewed publications, rigorous indexing protocols and well-established credibility within the academic community. Both databases are widely acknowledged for their comprehensive citation tracking systems and detailed metadata which facilitate robust and reliable bibliometric analyses. As highlighted by Mongeon and Paul-Hus 2016), Scopus and WoS remain the most authoritative and frequently used data sources in bibliometric studies providing consistent and high-quality insights into research performance and scholarly impact (Archambault, Campbell, Gingras, & Larivière, 2009).

To conduct an extensive search the search string was applied to both databases:

TITLE- ABS- KEY ("intention-behavior gap" OR "attitude-behavior gap" OR "green gap" OR "value-action gap" OR "intention-action gap" And "green product" OR "eco-friendly product" OR "sustainable product" OR "environmentally friendly product" OR "green consumption" OR "sustainable consumption" OR "eco-conscious consumption"). The data extraction was performed on 11 August 2025, yielding a total of 309 documents. The publication year range was limited to 2009–2025 as bibliographic records on the topic begin from 2009 in both databases.

2.2 | Inclusion and Exclusion Criteria

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework was applied to ensure a transparent and systematic process for identifying, screening, and selecting publications relevant to the intention–behavior gap in green product consumption. A total of 212 records were initially retrieved from the Scopus database and 102 from the Web of Science (WoS) database, yielding 314 documents in total. In Scopus, refinement by subject area (Business, Management & Accounting) excluded 101 records, and filtering by document type (articles and review papers) excluded an additional 15 records. In WoS, refinement by subject area (Business & Management) excluded 70 records with no exclusions based on document type. After these filtering steps 128 records remained for screening. Title

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and abstract screening led to the exclusion of 16 records from Scopus and 10 results from WOS resulting in 102 reports assessed for eligibility. Duplicate removal eliminated 14 records producing a final set of 88 studies included in the review. This systematic selection process ensured that the included literature directly addressed the scope of the study and met the predefined inclusion criteria.

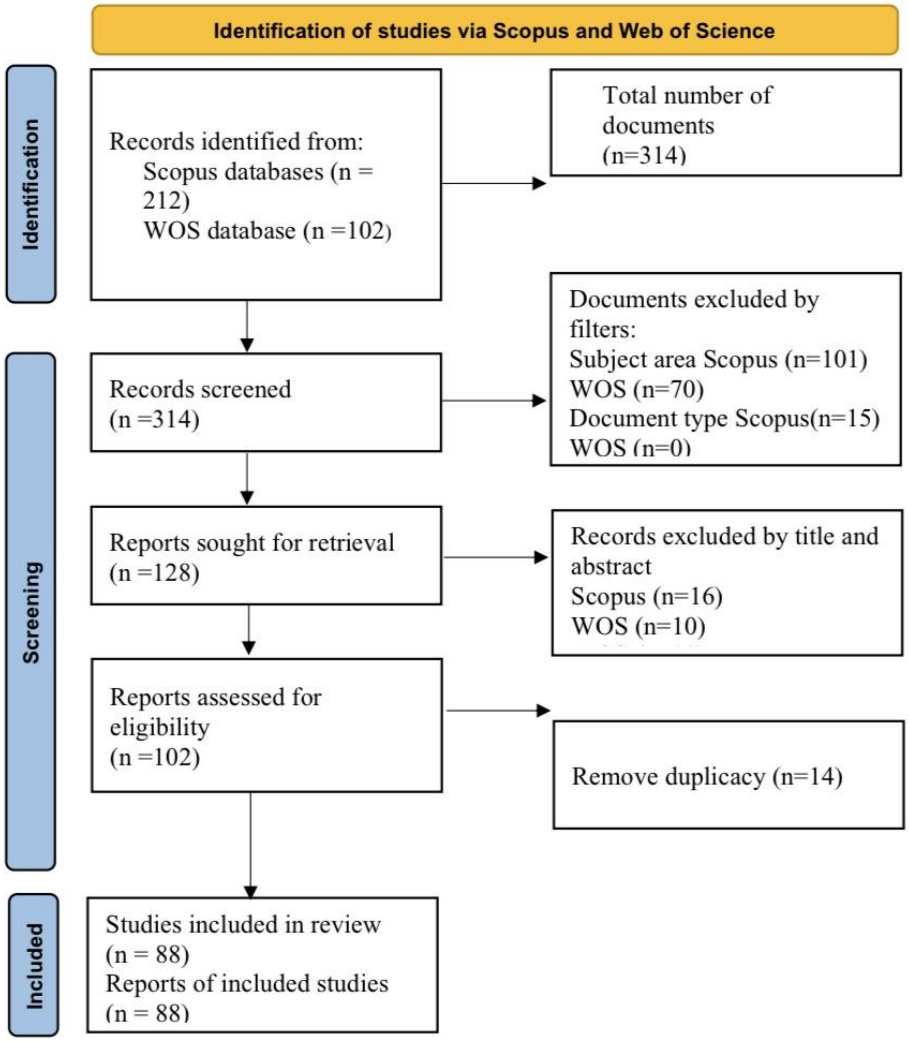

Figure 1 | The process of collecting and filtering the data.

2.3 | Software Used for Analysis

This study utilized Biblioshiny, the web-based interface of the Bibliometrix R package to conduct a bibliometric analysis (Aria, Cuccurullo, 2017). Biblioshiny is a widely adopted platform that enables researchers to perform advanced bibliometric investigations without requiring programming expertise offering a user-friendly interface (Donthu et al., 2021). It supports direct data import from major scholarly databases such as Scopus and Web of Science, enabling multi-dimensional analyses of authorship patterns, source impact, thematic evolution and research collaboration. For the present study on the intention–behavior gap in green product consumption, Biblioshiny facilitated the mapping of intellectual, conceptual and social structures within the field. This was achieved through visual outputs such as co-authorship networks, keyword co-occurrence maps, thematic cluster diagrams, and collaboration network graphs. Its ability to track publication trends, evaluate author productivity, examine citation networks and explore thematic developments makes it a powerful tool for comprehensive literature assessment and performance measurement in sustainability research.

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3 | Results

3.1 | Primary Information From the Database

The table presents important research data from the database (2009–2025) highlighting publication trends, how authors work together, and the impact of the research. It's useful for seeing how research grows, measuring its influence and studying collaboration. Researchers, policymakers and academics can use it to understand trends, find important contributors and assess the value of research in a particular area.

Table 1 – Primary Bibliometric Indicators for the Study Dataset (2009–2025)

Timespan	2009–2025
Sources (Journals, Books, etc)	50
Documents	88
Annual Growth Rate %	18.92
Document Average Age	4.76
Average citations per doc	87.82
References	0
DOCUMENT CONTENTS	
Keywords Plus (ID)	229
Author's Keywords (DE)	351
AUTHORS	
Authors	225
Authors of single-authored docs	11
AUTHORS COLLABORATION	
Single-authored docs	13
Co-Authors per Doc	2.7
International co-authorships %	12.5
DOCUMENT TYPES	
article	82
article; early access	1
review	5

Note: Compiled by the researcher using R studio.

The table 1 provides a concise bibliometric overview of the dataset covering publications from 2009 to 2025. The dataset includes publications from 2009 to 2025, comprises 88 documents sourced from 50 journals, books, and other outlets. The research field is experiencing steady growth, with an annual rate of 18.92%. The average document age is 4.76 years, and each document has an average of 87.82 citations, indicating a significant impact. The dataset includes 229 Keywords Plus and 351 Author's Keywords, which reflects a diverse thematic focus. The authorship analysis reveals 225 unique authors, with 11 single-authored documents. Collaboration is common with an average of 2.7 co-authors per document and 12.5% international collaboration. Most documents are research articles 82 with a few early-access articles 1 and review papers 5. In summary, the dataset highlights a growing and influential research area with moderate international collaboration, a focus on multi-authored works and a reliance on journal articles.

Performance Analysis

Performance analysis assesses the research productivity and impact of authors, institutions, and countries using bibliometric indicators, including publications, authorship and citations (Aria, Cuccurullo, 2017). This method identifies the most productive and influential contributors, providing insights into publication growth, scholarly visibility and collaboration (Donthu et al., 2021). Publication metrics highlight the volume and collaborative aspects of research while citation metrics evaluate academic influence by examining citation frequency (Van Raan, 2019) For this study on green

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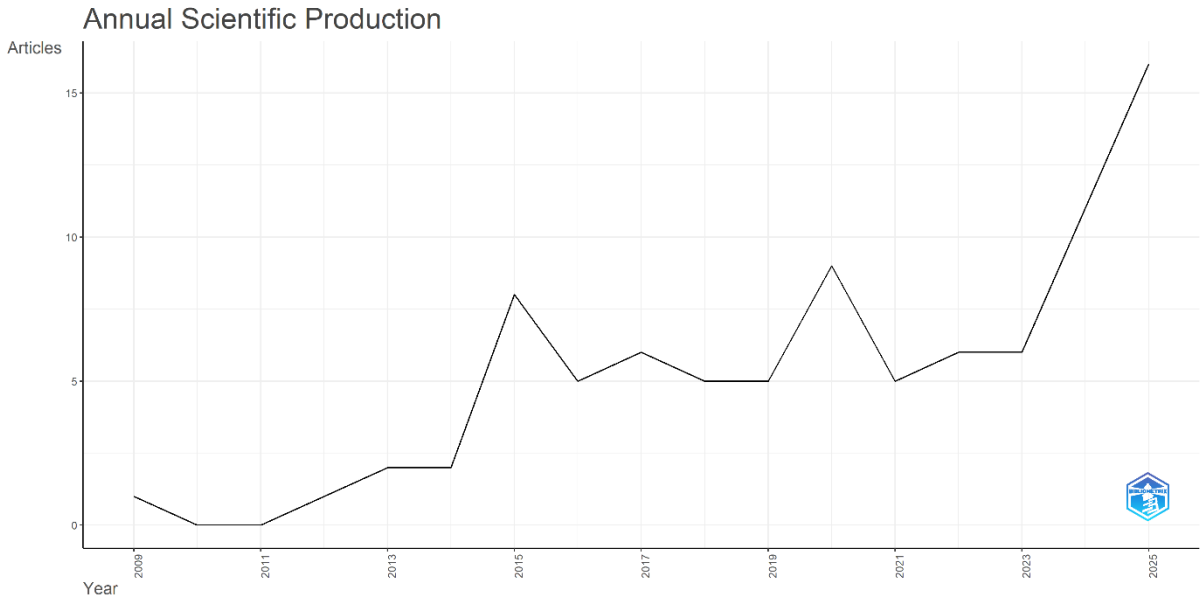
consumer behavior, performance analysis offers a clear view of the key contributors and influential works shaping the field.

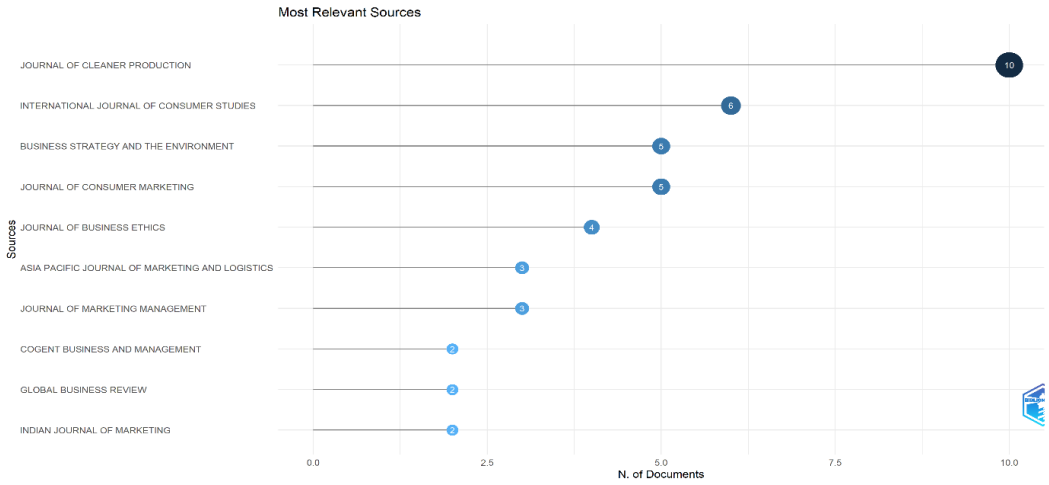
FIGURE 2 | Annual scientific production



Source: By Biblioshiny using R studio.

Figure 2 shows the Annual Scientific Production from 2009 to 2025, representing the number of articles published each year in your dataset. From 2009 to 2011, publication activity was very low with almost no articles in 2010 and 2011. A gradual increase occurred from 2012 to 2014, followed by a sharp peak in 2015 when the number of articles jumped significantly. After that the trend fluctuated, there were moderate declines in 2016, 2018 and 2021 interspersed with small rises in 2017, 2019 and 2020. From 2022 onwards the trend moved upward steadily with a particularly sharp rise between 2023 and 2025 reaching the highest level in 2025 at around 17 articles. Overall, this pattern suggests that research activity in this field started slowly experienced some early spikes and dips and then entered a rapid growth phase in the most recent years likely reflecting increasing scholarly and practical interest in the topic.

FIGURE 3 | Most relevant sources



Source: By Biblioshiny using R studio.

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In the Figure 3, the horizontal bar plot illustrates the number of documents published on a specific research topic across various academic journals. The journals are listed on the vertical axis, and the horizontal axis represents the number of documents each journal has contributed. The size of the blue circles indicates the number of publications, with the exact count displayed inside each circle. The Journal of Cleaner Production is the most prolific with 10 documents. The International Journal of Consumer Studies follows with 6 documents. Business Strategy and the Environment and the Journal of Consumer Marketing are tied with 5 documents each, while the Journal of Business Ethics has 4 documents. The Asia Pacific Journal of Marketing and Logistics and the Journal of Marketing Management each have 3 publications. Additional sources including Cogent Business and Management, Global Business Review and Indian Journal of Marketing have each contributed 2 documents.

Bradford's Law describes the distribution of scientific literature by ranking journals by their productivity on a specific research topic and dividing them into zones with an equal number of articles often following the 1: n : n^2 ratio (Brookes, 1969). In this study on consumer choice and eco-friendly product research, the Bradford plot reveals that a small number of journals are the core sources of literature. These include the Journal of Cleaner Production, International Journal of Consumer Studies, Business Strategy and the Environment, Journal of Consumer Marketing, and Journal of Business Ethics. The curve's steep initial slope shows that these few journals contribute a disproportionately high number of articles making them the main outlets for scholarly communication in this field. Beyond this core zone the curve flattens representing

a long tail of journals that publish only a few relevant articles each. This pattern highlights the concentration of research within specialized, high-impact journals, aligning with Bradford's observation that literature on a topic is unevenly dispersed, with most concentrated in a limited set of sources (de Souza et al., 2019).

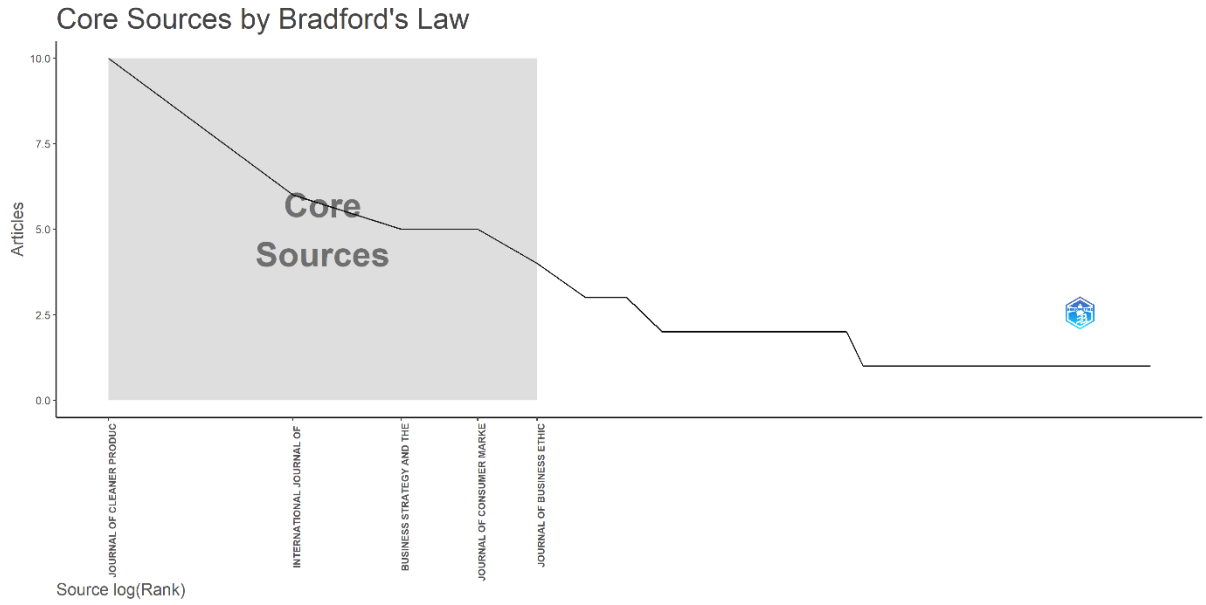

FIGURE 4 | Bradford's law. Source: By Biblioshiny using R studio

The figure 4 justifies the distribution of research output by showing how a small set of journals accounts for the majority of publications in the field of consumer choice and eco-friendly products. On the plot, the **x-axis** represents the ranked list of journals in descending order of productivity (log scale), and the **y-axis** shows the number of articles published. The shaded **Core Sources** zone includes the *Journal of Cleaner Production*, *International Journal of Consumer Studies*, *Business Strategy and the Environment*, *Journal of Consumer Marketing*, and *Journal of Business Ethics*. The journals identified produce the most research on this topic, emphasizing their key role in advancing research and shaping theories. This concentration also shows that these publications are essential for disseminating high-quality, peer-reviewed findings

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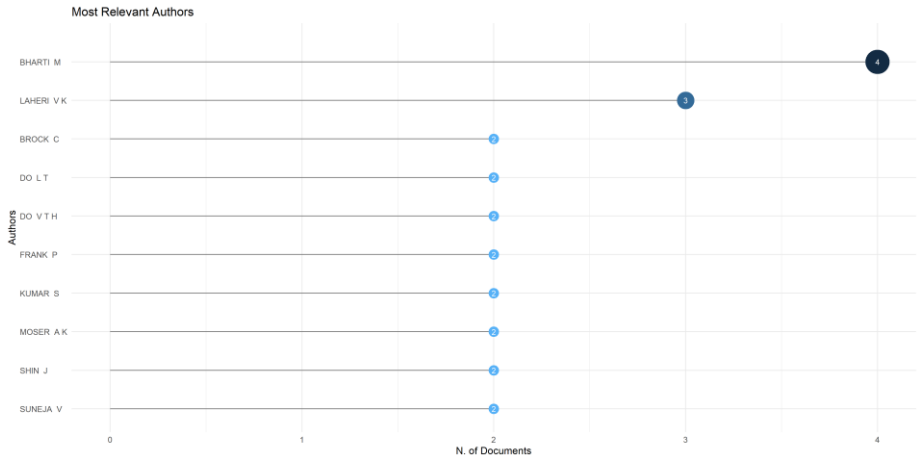
that influence both academic and policy debates. Moreover, their frequent appearance in bibliometric studies underlines their lasting influence.

Figure 5 | Institutional Analysis

Source: By Biblioshiny using R studio

The figure 5 illustrates the institutional collaboration network in the domain of green product consumption and the intention–behavior gap generated using Biblioshiny. Each node represents an institution with node size proportional to its research output, while the connecting lines indicate the strength of collaborative publications. The University of Delhi emerges as the most influential and collaborative hub forming strong connections with Banaras Hindu University, XLRI – Xavier School of Management and Abu Dhabi University reflecting its significant contribution to understanding behavioral patterns and gaps in green product consumption. Other notable clusters include a European cluster with Leuphana University of Lüneburg, Technische Universität Berlin and Alanus University of Arts and Social Sciences emphasizing sustainability and consumer psychology, an international cluster connecting the University of Otago, the University of Sheffield and the National Institute of Technology (NIT) system highlighting cross-border interdisciplinary studies, an Italian cluster featuring the University of Salerno and San Raffaele Roma University and a specialized niche cluster linking Chulalongkorn University and Aarhus University. Overall this network visualization underscores the prominent role of Indian institutions particularly the University of Delhi in advancing research on the intention–behavior gap, while also reflecting the global collaborative efforts that enrich the theoretical and empirical understanding of green consumer behavior.

FIGURE 6 | Most relevant authors



Source: By Biblioshiny using R studio.

The "Most Relevant Authors" figure 6 presents the leading contributors to the research area, ranked by the number of published documents. The horizontal axis indicates the number of authored documents, and the vertical axis lists the

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authors' names. Figure 5 reveals that Bharti M is the most active author, with four publications, followed by Laheri V.K. with three. Several other authors including Brock C, Do L.T., Do V.T.H., Frank P, Kumar S, Moser A.K., Shin J and Suneja V each have two publications. The size of the bubbles corresponds to the number of documents, which highlights the productivity of each author. This distribution indicates that while a few researchers have made significant contributions, there is also a notable presence of multiple authors with moderate but meaningful contributions suggesting a collaborative and varied authorship landscape within this field.

TABLE 2 | Authors production over time

Author	Title	Sources (Journal)	Total Citation	Total Citation per Year
Moser a k 2015	Thinking green, buying green? Drivers of pro-environmental purchasing behavior	Journal of consumer marketing	491	44.636
Moser a k 2016	Consumers' purchasing decisions regarding environmentally friendly products: an empirical analysis of german consumers	Journal of retailing and consumer services	210	21.000
Frank p 2018	Bridging the intention–behavior gap among organic grocery customers: the crucial role of point-of-sale information	Psychology & marketing	83	10.375
Brock c 2018	Bridging the intention–behavior gap among organic grocery customers: the crucial role of point-of-sale information	Psychology & marketing	83	10.375
Shin j 2018	Modelling the consumer decision-making process to identify key drivers and bottlenecks in the adoption of environmentally friendly products	Business strategy and the environment	45	5.625
Laheri v k 2024	A multidimensional lens of environmental consciousness: towards an environmentally conscious theory of planned behavior	Journal of consumer marketing	34	17.000
Kumar s 2024	A multidimensional lens of environmental consciousness: towards an environmentally conscious theory of planned behavior	Journal of consumer marketing	34	17.000
Shin J 2017	Market strategy for promoting green consumption: consumer preference and policy implications for laundry detergent	International journal of consumer studies	33	3.667
Laheri v k 2020	Moderating effect of facilitators and barriers for purchase of green products in india	Indian journal of marketing	20	3.333
Frank p 2019	"Green cannibalism" or an "organic inside job"? Empirical insights into the rivalry of ethical grocery types	Psychology and marketing	19	2.714

Note: Compiled by the researcher using R studio

Table 2 illustrates the most influential authors and articles in the field of green consumer behavior, based on citation performance. The analysis, conducted using Biblioshiny in R Studio, shows that (Moser 2015) holds the highest impact with 491 citations and 44.636 citations per year in the *Journal of Consumer Marketing*, marking it as a seminal work on pro-environmental purchasing behavior. (Moser's 2016) subsequent article in the *Journal of Retailing and Consumer*

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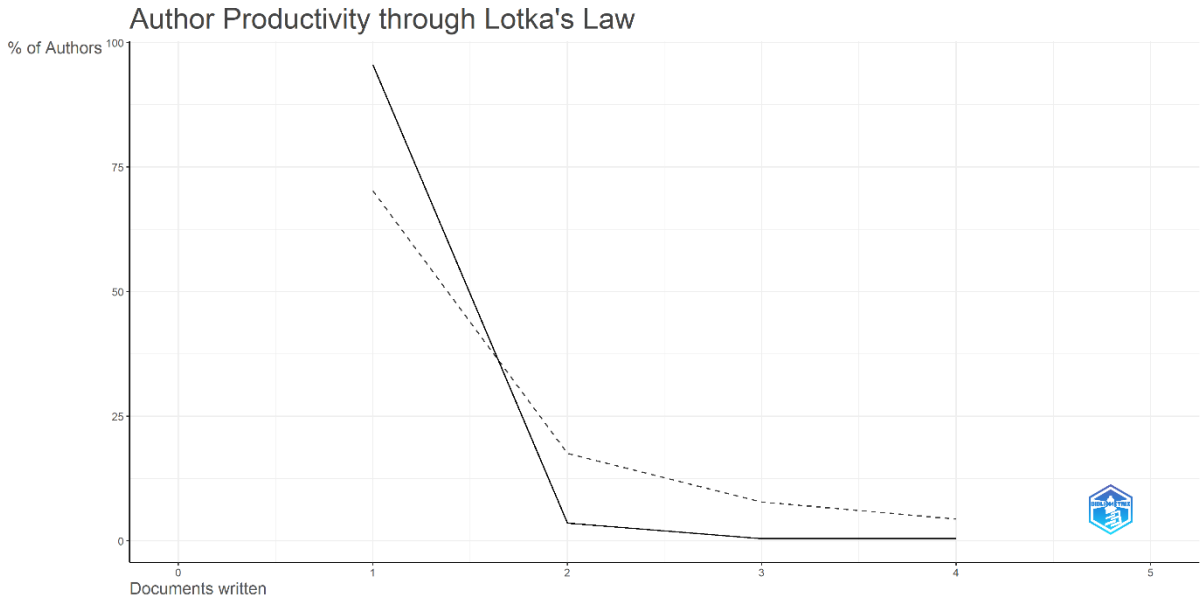
Services further strengthens this influence with 210 citations. Frank and (Brock 2018) collectively contribute to the field through their widely cited article in *Psychology & Marketing* with 83 citations (10.375 per year), emphasizing the importance of addressing the intention–behavior gap in organic purchasing. (Shin 2018) also emerges as a key contributor with his study on consumer decision-making in *Business Strategy and the Environment* (45 citations), alongside his 2017 publication in the *International Journal of Consumer Studies* (33 citations). More recent research by (Laheri and Kumar 2024) in the *Journal of Consumer Marketing* has already gained 34 citations, reflecting the rising significance of environmental consciousness in consumer studies, while (Laheri 2020) adds valuable insights with his article in the *Indian Journal of Marketing* (20 citations). (Frank 2019) also contributes with his work on "green cannibalism" in *Psychology & Marketing*, cited 19 times. Overall, the table highlights the enduring impact of early foundational studies such as those by Moser while showcasing the growing visibility of contemporary research particularly from emerging authors like Laheri and Kumar.

FIGURE 7 | Lotka's Law



Source: By Biblioshiny using R studio.

As shown in Figure 7, the distribution of author productivity follows Lotka's Law which states that most authors contribute only a single publication while a much smaller proportion produce multiple works (Barik and Jena, 2021). In this dataset the curve indicates that approximately 88–90% of authors have published only one paper, while very few have authored two or more. The solid line represents the observed data whereas the dashed line corresponds to Lotka's theoretical model. The close alignment between the two curves confirms the validity of Lotka's principle in this research field. This pattern reflects the dominance of a limited number of prolific authors who drive much of the scholarly output, while the majority remain one-time contributors. Such an imbalance is typical in bibliometric studies and is important for identifying key authors, research leaders, and potential collaboration opportunities within the domain of green consumer behavior.

Figure 8 | Most cited countries

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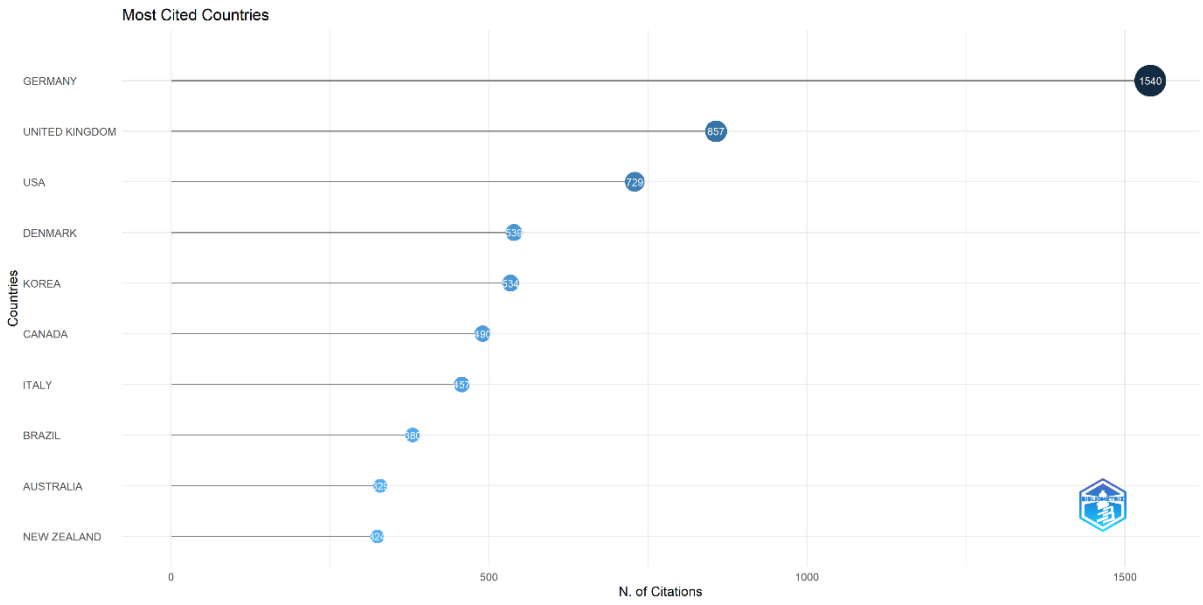

Source: By Biblioshiny using R studio.

As shown in Figure 8, the distribution of citations across countries reveals that Germany is the most influential contributor with 1,540 citations, followed by the United Kingdom (857 citations) and the United States (729 citations). Denmark (539 citations) and Korea (534 citations) also demonstrate significant impact, while Canada (490 citations), Italy (457 citations), and Brazil (380 citations) represent moderate contributors. Australia (329 citations) and New Zealand (322 citations) are positioned at the lower end of the top ten cited countries. This distribution highlights a strong geographical concentration of impactful research in Europe and North America with Germany taking a dominant lead. Such an uneven pattern underscores the role of developed countries as central hubs of scholarly influence while also indicating potential opportunities for emerging regions to enhance visibility and collaboration in the research domain.

Scientific Mapping

Scientific mapping is a bibliometric technique that visualizes and quantifies the conceptual, intellectual and social structures of a research field by examining relationships among documents, authors, sources and keywords. It uses methods such as co-citation analysis to identify intellectual foundations, bibliographic coupling to highlight current research fronts, co-word analysis to map conceptual structures and co-authorship or country collaboration networks to capture the social dimension of science (Zupic and Čater, 2015). These approaches are complementary: co-citation is retrospective, bibliographic coupling is prospective and co-word analysis provides insight into thematic developments. Tools like Bibliometrix/Biblioshiny facilitate this process by constructing networks, clustering themes, and tracking thematic evolution (van Eck, Waltman, 2010, Aria and Cuccurullo, 2017). Moreover, comparative reviews of science-mapping software emphasize the importance of linking visualization choices to the underlying similarity measures and normalization techniques to ensure valid interpretations (Cobo et al., 2011). Thus, scientific mapping provides researchers with a systematic way to explore the structure, dynamics, and trends within a given knowledge domain.

Figure 9 | Co-authorship analysis

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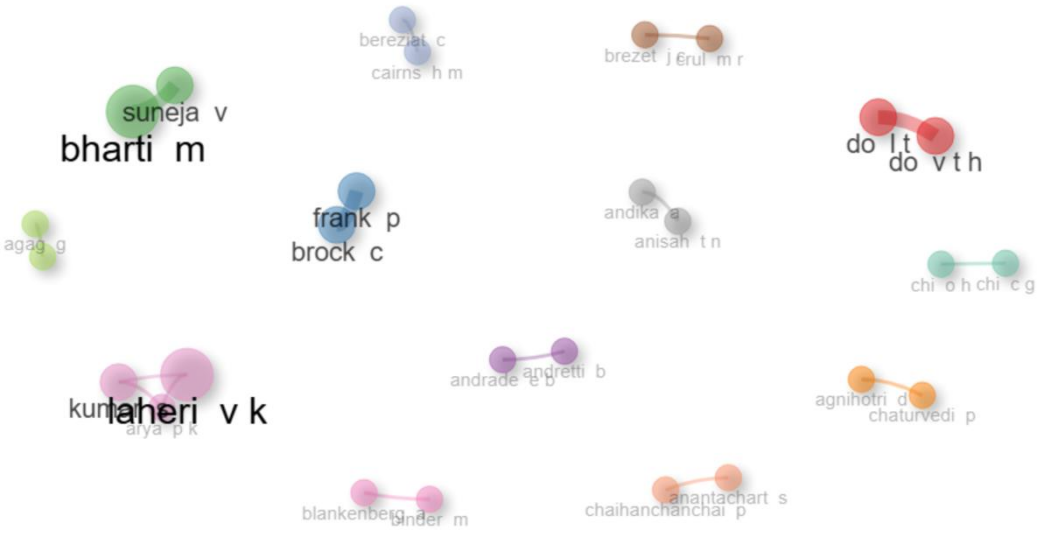
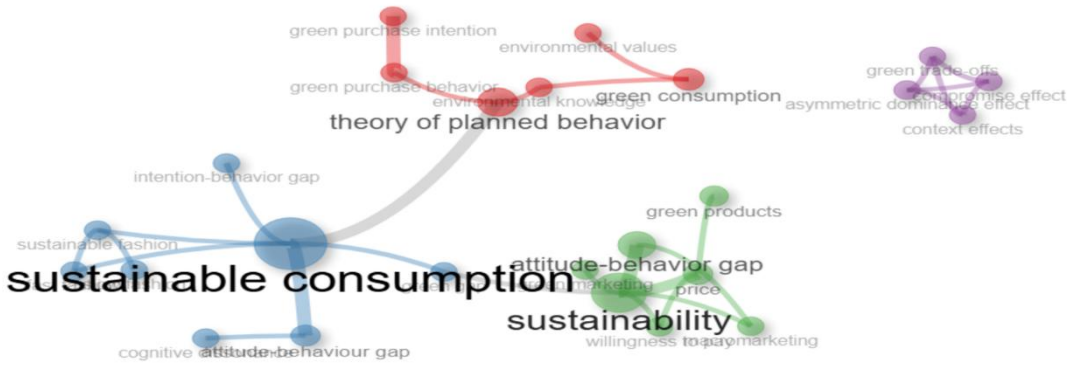


Source: By Biblioshiny using R studio

Co-authorship analysis in examines the collaborative structure of documents and the relationships between contributing authors are systematically mapped (van Eck & Waltman, 2010). In Figure 9, the visualization highlights the collaboration network of authors contributing to the field of green product consumption and the intention–behavior gap. The network reveals several distinct author clusters. The most prominent collaboration is observed between Bharti M and Suneja V indicating their strong partnership and significant contribution to the literature. Another major cluster centers around Laheri V. K. who collaborates closely with Kumar A. and Arya P. K. reflecting an active research group focused on behavioral and sustainability dynamics. Additional author pairs such as Frank P and Brock C and Do L. T. and Do V. T. represent strong but smaller collaborative ties while isolated pairs like Agag G, Chi O. H. and Chi C. G. and Anantachart S. with Chaianchanchai P. demonstrate regionally or thematically focused research efforts.

Figure 10 | Co-occurrence of Authors Keywords



Source: By Biblioshiny using R studio

A co-occurrence analysis was conducted to assess how frequently authors keywords appear together in publications concerning green product consumption and the intention–behavior gap. This technique is instrumental in revealing

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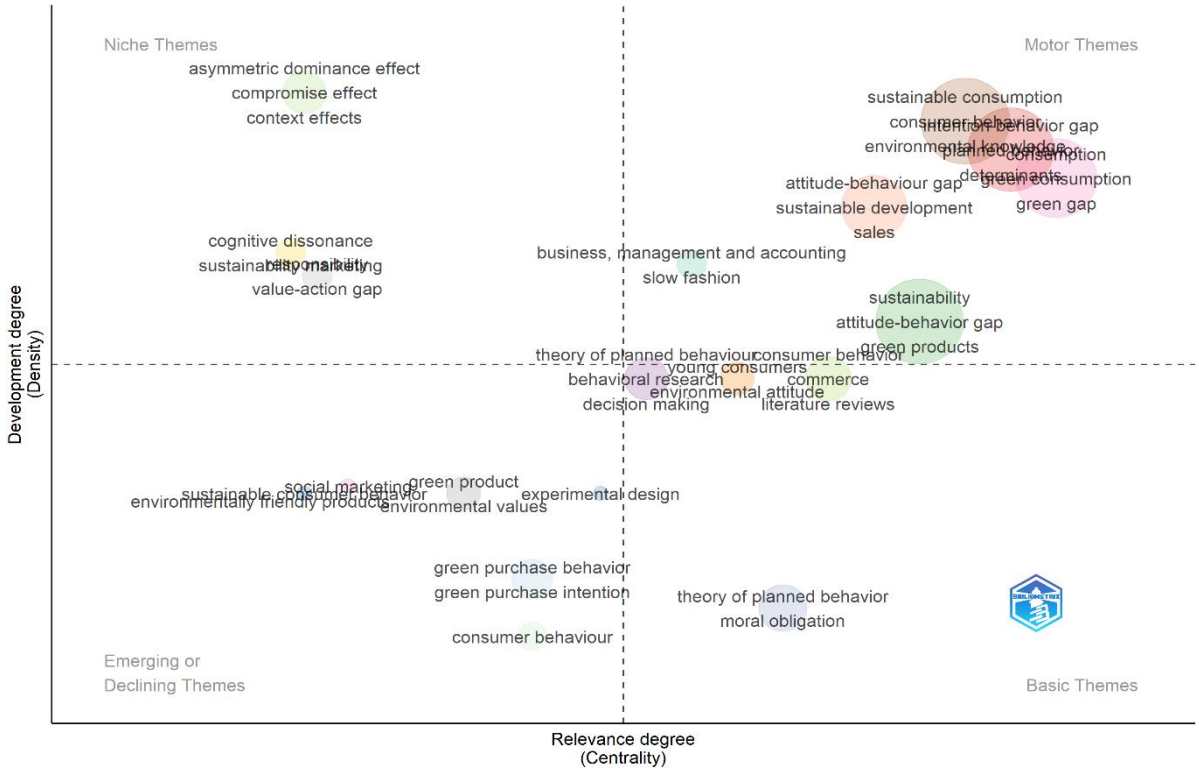
dominant thematic structures uncovering emerging areas of interest and identifying potential gaps for future research (Yao et al., 2022). The co-occurrence keyword network presented in Figure 10 elucidates the thematic landscape of the field. Central nodes such as "sustainable consumption" demonstrate their pivotal role within the literature linked closely to key concepts like "intention–behavior gap," "attitude–behavior gap," and "cognitive attitude–behavior gap" thereby reflecting the prominence of psychological and behavioral inconsistencies in the adoption of green products. Another major cluster connects "theory of planned behavior" with terms like "green purchase intention," "green purchase behavior," "environmental values" and "environmental knowledge" underscoring the theoretical underpinnings of behavioral research in this domain. Additionally the green cluster featuring terms such as "sustainability," "green products," "willingness to pay" and "green marketing" highlights the intersection of sustainable practices and market dynamics. A smaller cluster comprising "green trade-offs," "compromise effect" and "context effects" points to the nuanced decision-making processes consumers face when evaluating sustainable options. Collectively this network underscores that while sustainable consumption and the intention behavior gap remain central themes there is significant momentum around pricing dynamics, consumer psychology and marketing strategies indicating the need for integrated and interdisciplinary approaches to advance understanding of green consumption behaviors (Yao et al., 2022).

Figure 11 | Thematic Map Analysis



Source: By Biblioshiny using R studio

Figure 11 presents the thematic map of research on the intention–behavior gap in green product consumption structured across four quadrants based on relevance (centrality) and development (density). The motor themes (top right) such as sustainable consumption, green gap, attitude–behavior gap, green consumption and environmental knowledge are highly developed and central to the field representing the core areas driving research progress. The niche themes (top left) including asymmetric dominance effect, compromise effect and context effects are specialized but less connected to the mainstream literature reflecting their focus on specific behavioral decision-making contexts. The basic themes (bottom right) such as green purchase intention, consumer behavior and the theory of planned behavior are fundamental concepts with high relevance but relatively lower development indicating their foundational role in understanding green consumer behavior. Finally the emerging or declining themes (bottom left) including social marketing, environmentally friendly products and sustainable consumer behavior suggest either early-stage research areas gaining traction or concepts whose relevance is diminishing over time. Overall this map highlights that while the research field has a mature and robust core

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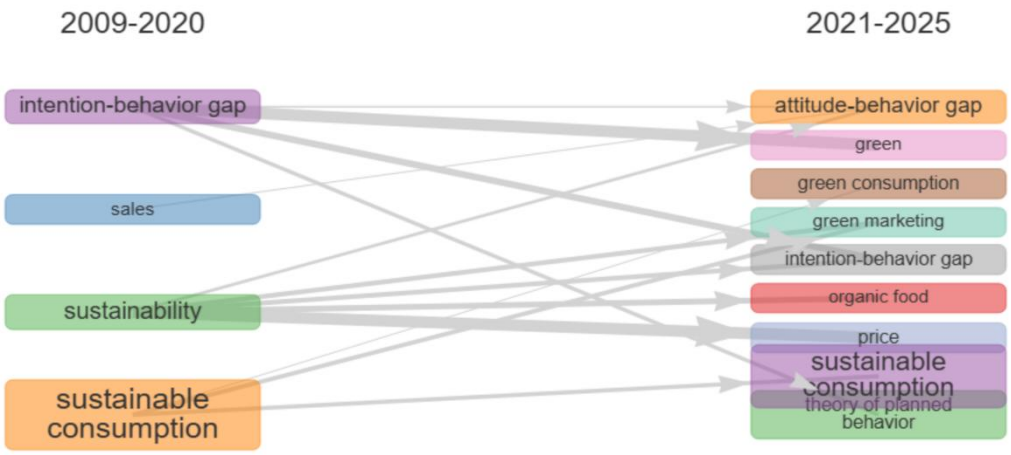
there are promising opportunities for further exploration in niche decision-making frameworks and marketing-based interventions to better address the intention–behavior gap in sustainable consumption.

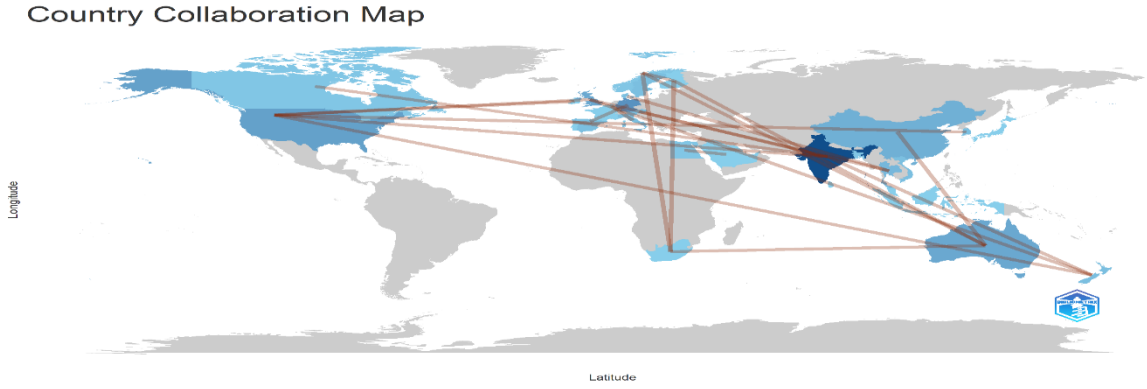
Figure 12 | Thematic Evolution



Source: By Biblioshiny using R studio

The figure 12 shows the evolution of research themes on the intention–behavior gap in green product consumption. From 2009–2020 studies focused on broad topics like sustainability, sustainable consumption and the intention–behavior gap. Between 2021–2025, the field became more specialized with emerging themes like green marketing, organic food, price and behavioral models such as the Theory of Planned Behavior, reflecting a shift toward deeper, practical, and theory-driven analyses.

Figure 13 | Country Collaboration Map



Source: By Biblioshiny using R studio

Figure 13 defines the collaboration network graph highlights the global research connectivity in studies focusing on the intention–behavior gap in green product consumption. The strongest links are evident between India and New Zealand (171.48), USA and New Zealand (171.48) and USA and Korea (127.83) indicating active and consistent joint research efforts in these regions. Moderate collaborative ties are observed between Australia and China (103.82) as well as Egypt

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and Saudi Arabia (44.54) reflecting a growing but not yet dominant level of cooperation in this domain. Conversely weaker or even negative link strengths such as India–USA (-112.46) and Germany–France (-2.76) suggest either minimal interaction or declining collaboration between these countries in recent years. Overall the network graph portrays a globally interconnected but uneven collaboration pattern with countries like USA, India and Australia serving as pivotal hubs for research partnerships while other nations remain on the periphery with limited engagement.

Discussion

This study provides a comprehensive bibliometric analysis of research on the intention–behavior gap in green product consumption, uncovering the intellectual, conceptual and social structures that define this evolving research domain. The performance analysis indicates a steady growth in publications with a significant surge in output after 2020 reflecting rising global awareness of sustainable consumption and increased emphasis on green marketing and pro-environmental behaviors. Foundational studies published between 2015 and 2018 continue to be widely cited demonstrating their lasting influence in establishing key theoretical frameworks such as the Theory of Planned Behavior and Value–Belief–Norm Theory in this context.

Leading publication sources including the Journal of Cleaner Production, Sustainability and the Journal of Consumer Behaviour have emerged as the primary platforms driving discourse in this area. Author-level and institutional analyses highlight strong contributions from researchers and institutions across Asia, Europe and North America signaling the global and interdisciplinary nature of this field.

Thematic and co-occurrence analyses reveal dominant research streams centered on green purchase intention, attitude–behavior relationships, sustainable consumption and consumer decision-making models. Emerging areas such as digital influence on green behavior, social norms and behavioral interventions indicate a shift toward more integrated and technology-driven approaches to bridging the intention–behavior gap. While the field demonstrates increasing maturity, the limited longitudinal studies and fragmented collaboration networks highlight opportunities for more cross-country partnerships and long-term empirical studies to better understand behavioral changes over time.

Scientific mapping through keyword co-occurrence analysis uncovers dominant themes such as green consumption, behavioral intention, sustainable development and environmental concern indicating their pivotal roles in the literature. Emerging clusters highlight evolving research areas including green marketing strategies, digital transformation and behavioral interventions aimed at closing the intention–behavior gap. The thematic evolution and mapping analysis reveal a transition from theoretical and conceptual explorations in the early years toward practical and policy-driven approaches in recent studies emphasizing the application of behavioral insights to enhance sustainable consumer practices.

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Authors / Studies	**Key Contributions to Green Consumer Behavior and Intention–Behavior Gap**
Moser (2015)	Identified core drivers of pro-environmental purchasing behavior, highlighting psychological and attitudinal factors influencing green choices.
Moser (2016)	Conducted an empirical analysis of German consumers, emphasizing decision-making patterns in environmentally friendly purchases.
Frank & Brock (2018)	Explored the role of point-of-sale information in reducing the intention–behavior gap among organic grocery consumers.
Shin (2017, 2018)	Developed models to understand consumer decision-making bottlenecks and market strategies for green consumption.
Laheri (2020)	Examined facilitators and barriers affecting green product purchases in the Indian context.
Laheri, Kumar, Arya and Lim (2024)	Proposed an environmentally conscious theory of planned behavior integrating multidimensional environmental consciousness.
Stevens (2010)	Provided early insights into the structural and psychological barriers preventing green purchase behaviors despite positive intentions.
Joshi & Rahman (2015)	Reviewed factors influencing green purchase behavior, highlighting research gaps and future opportunities.
Young et al. (2010)	Investigated behavioral patterns in sustainable consumption, identifying the value-action gap in purchasing decisions.
Yao et al. (2022)	Used bibliometric and factor analysis to map trends in green consumption and emerging research themes.
Journals (Journal of Cleaner Production, Sustainability, Business Strategy & Environment, International Journal of Consumer Studies)	Core publication platforms driving research on green consumption, sustainable behavior and marketing strategies.

Findings

The findings of this bibliometric analysis reveal a clear growth trajectory in research on the intention–behavior gap in green product consumption starting from minimal activity between 2009 and 2014 when annual publications ranged between 0 and 2 papers. A notable shift occurred in 2015 with publications sharply increasing to 8 papers, it signals the beginning of a growth phase in this research domain. This surge from 2015 onward coincides with a global rise in awareness of sustainable consumption, the incorporation of behavioral theories into consumer studies, and increasing interest from policymakers and businesses in understanding consumer behavior toward green products. A steady growth of research on the intention–behavior gap in green product consumption with a significant growth in 2015 and peaking

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in 2025 reflecting the increasing global focus on sustainable consumer behavior. The findings indicate that foundational studies from 2015 to 2018 introduced core theoretical frameworks such as the Theory of Planned Behavior (TPB) and Value–Belief–Norm (VBN) Theory, which continue to shape subsequent research in this area. Additionally the findings reveal that influential journals, including the *Journal of Cleaner Production*, *Sustainability* and the *International Journal of Consumer Studies* along with leading authors such as Moser, Frank, Brock, Laheri and Kumar have significantly contributed to advancing the field. Institutional and country-level findings show that India, the United States and Germany are leading contributors with strong collaborative networks like India–New Zealand and USA–Korea although overall collaboration remains somewhat fragmented. The thematic findings highlight sustainable consumption, green purchase intention and behavioral models as dominant areas while digital transformation, green marketing and behavioral interventions are emerging as promising directions for future research.

Future Research Directions

Future studies should adopt longitudinal designs to examine the evolution of consumer intentions and behaviors over time specifically in response to policy changes, technological progress and shifting market dynamics. It is also essential to integrate advanced behavioral models such as the Norm Activation Model (NAM) and habit formation theories in conjunction with the widely used Theory of Planned Behavior (TPB) and Value–Belief–Norm (VBN) Theory, to achieve a more profound understanding of the psychological mechanisms driving sustainable purchasing. Furthermore researchers should investigate the impact of digital transformation, including the role of social media, e-commerce and AI-driven personalization, in addressing the intention–behavior gap. Greater emphasis should also be placed on cross-cultural and demographic analyses particularly within developing economies to identify context-specific drivers and barriers. Strengthening international and interdisciplinary collaborations between marketing, behavioral economics and environmental psychology can enhance the development of innovative strategies for promoting sustainable consumption behaviors.

Limitation of the study

This study has certain limitations that should be acknowledged. First, the bibliometric analysis was conducted exclusively using Biblioshiny (R Bibliometrix package) without integrating complementary tools such as VOSviewer or CiteSpace which could have offered alternative visualizations and enhanced clustering accuracy. Second, the search strategy was limited to specific keywords related to the intention–behavior gap and green product consumption which may have led to the omission of studies using alternative or emerging terminologies in this domain. Third, the reliance on citation-based indicators inherently favors older publications that have had more time to accumulate citations meaning that recent influential studies (2023–2025) may be underrepresented in terms of their true impact. Finally, as a purely quantitative approach bibliometric analysis provides insights into structural and performance patterns but does not capture deeper qualitative perspectives, such as theoretical depth, methodological rigor or contextual nuances within the literature. These limitations highlight the need for complementary approaches, such as systematic or content-driven reviews, to deliver a more comprehensive understanding of the intention–behavior gap in green product consumption.

Conclusion

This study provides a comprehensive bibliometric analysis of research on the intention–behavior gap in green product consumption from 2009 to 2025 offering valuable insights into the intellectual, conceptual and collaborative structures of this growing domain. The findings indicate a consistent increase in scholarly output with a sharp rise in publications from 2022 to 2025 reflecting the growing academic and practical importance of understanding consumer behavior in sustainable markets. Early studies in this area continue to shape current research directions, highlighting their lasting influence. The analysis also shows that high-impact journals such as the *Journal of Cleaner Production* and the *International Journal of Consumer Studies* have been key publication platforms, while collaboration networks reveal significant contributions from leading institutions across India, Germany, the United States and other countries. Scientific mapping shows that the main focus areas in this research are sustainable consumption green purchase intention and consumer behavior. It also highlights new and growing topics such as pricing, consumer psychology and green marketing. These findings show that while the field has developed well over time there are still many opportunities to

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study how different approaches and real-world situations can better connect what consumers intend to do with what they actually buy. Overall this research provides a clear overview of the evolution, key contributors and emerging trends in the field offering valuable insights for academics, practitioners and policymakers seeking to promote sustainable consumption and close the intention–behavior gap.

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