Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 4 Issue 3 (2024)

Mapping the Landscape: Key Contributors and Trends in Green Consumer Behavior Research

Sushma J
Research Scholar, Department of MBA, Siddaganga Institute of Technology, Tumakuru, Karnataka, India

Dr. C Somashekar
Associate professor, Department of MBA, Siddaganga Institute of Technology, Tumakuru, Karnataka, India

Dr. Nethravathi N
Associate Professor, Department of MBA, BMS Institute of Technology and Management, Bengaluru.

Abstract

This bibliometric study examines the academic literature on consumer behavior towards green products, offering a comprehensive analysis of trends, key contributors, and emerging themes. Using data from the Scopus database, 315 peer-reviewed articles published between 1994 and 2024 were analyzed. The PRISMA framework was employed to ensure systematic screening and selection of relevant studies. Key metrics, including publication growth, author contributions, and journal impact, were assessed to identify influential works and collaboration patterns in the field.

The study identifies five primary clusters within the literature: green consumer values, green marketing and sustainable development, psychosocial drivers of green behavior, environmental concern and trust in green products, and green consumer and product identification. Each cluster reflects a different aspect of consumer behavior, highlighting the diverse factors that influence eco-conscious purchasing decisions. The analysis also underscores the growing academic interest in this area, with a significant increase in publications over the past decade, reflecting the rising importance of sustainability in both research and global consumption trends.

Despite the extensive research, several gaps remain, including a need for cross-cultural comparisons, longitudinal studies, and a deeper understanding of the behavioral-intention gap. Additionally, the impact of digital platforms, corporate greenwashing, and sustainability beyond green products require further exploration. This study provides a foundational understanding of the academic landscape in green consumer behavior, identifying both current trends and areas for future research that can further inform sustainable business practices and consumer engagement strategies.

Keywords: *Consumer Behavior, Green Products, Bibliometrics, Systematic Literature Review, Green Marketing, Sustainability, Environment Protection, Green Consumer Behavior, Sustainable Consumption*

1. Introduction:

The increasing global awareness of environmental sustainability has significantly influenced consumer behavior, leading to a growing interest in green products (Ogiemwonyi et al., 2023). With industries adapting to eco-friendly practices, the role of consumer behavior in driving this shift has become a critical area of research (White et al., 2019). Bibliometrics, the statistical analysis of written publications, provides valuable insights into the academic landscape surrounding consumer behavior towards green products. By analyzing trends in publications, author contributions, and research clusters, this bibliometric study explores how scholarly interest in this field has evolved and what areas have gained prominence over time.

The study leverages data from Scopus, one of the largest abstract and citation databases (Baas et al., 2020), to map the trajectory of research on green consumerism. From 1994 to 2024, academic interest in this subject has experienced substantial growth, as evidenced by the increasing number of publications, contributing authors, and the widespread international collaboration reflected in the research data. Central themes such as environmental sustainability, green marketing, and the psychosocial drivers of eco-conscious consumer behavior have emerged as crucial focal points.

As the world faces pressing environmental challenges, understanding the motivations and factors that drive consumers to adopt green products becomes essential. The analysis not only highlights the academic rigor and the extent of collaborative research in this domain but also underscores the importance of consumer values, environmental attitudes, and marketing strategies in promoting sustainable consumption. This bibliometric review is a comprehensive attempt to trace the

intellectual development of consumer behavior towards green products, identify leading contributors, and assess the impact of key journals in the field.

In the following sections, the study outlines the methodology employed for data collection, the inclusion and exclusion criteria, and a detailed breakdown of the findings. These results offer a thorough perspective on the interdisciplinary nature of this field, where business, environmental sciences, psychology, and social sciences converge to examine green consumer behavior comprehensively.

2. Research Questions:

This study was guided by the following research questions aimed at uncovering trends and gaps in the existing literature on green consumer behavior:

1. What are the key themes and trends in the academic literature on consumer behavior towards green products?

2. How has the academic interest in green consumer behavior evolved over time?

3. Which authors, journals, and countries are the most influential in the field of consumer behavior towards green products?

4. What factors are most commonly studied in relation to consumer behavior and green products?

5. How do cultural and regional differences impact consumer behavior towards green products?

6. What are the gaps in the current literature, and what future research areas are suggested by this bibliometric analysis?

3. Methodology

This bibliometric study was conducted using VOSviewer and Biblioshiny library in R to analyze academic literature on consumer behavior toward green products using the Scopus database. The search string “Consumer Behavior” OR “Consumer Behaviour” AND “Green Products” was employed to capture relevant studies. Only peer-reviewed articles in English were included, while books, conference papers, and non-finalized publications were excluded. Using the PRISMA framework, the initial 471 records were screened, refined, and reduced to 315 relevant studies. The analysis focused on publication growth, key authors, journals, and collaborative networks. Various visualization tools, such as co-authorship networks and keyword maps, were utilized to identify trends and key contributors. Cluster analysis categorized the literature into themes like green marketing, environmental concern, and psychosocial drivers of behavior, offering a comprehensive view of the field.

4. Data Collection:

Table 1: Search Strings used for data collection

For Consumer Behavior in Green Products	Search String Used
Consumer Behavior AND Green Products	"Consumer Behavior" OR "Consumer Behaviour" AND "Green Products"

Source: Author(s)

The search strings used to gather literature on consumer behavior in green products from the Scopus database include variations in spelling to ensure comprehensive coverage. For consumer behavior, the search string used is 'Consumer Behavior' OR 'Consumer Behaviour', capturing both American and British spellings. For green products, the search string is 'Consumer Behaviour' AND 'Green Products', ensuring that both terms appear in the results. This strategy ensures a thorough collection of relevant literature on the topic (Refer Table 1).

Table 2: Inclusion and Exclusion Strategy

Inclusion Strategy	Exclusion Strategy
Related to Consumer Behavior in Green Products	Books, Book Chapters, Conference Papers
Only English Language	Articles in the press

Peer-Reviewed
Articles Published (Final)

Source: Author(s)

The inclusion and exclusion criteria for data collected from the Scopus database on consumer behavior in green products are clearly defined in table 2. The inclusion criteria focus on articles related to consumer behavior in green products, written in English, and published as peer-reviewed, finalized articles. On the other hand, the exclusion criteria eliminate books, book chapters, conference papers, and articles that are still in press. This strategy ensures that the data is relevant, high-quality, and specific to the research topic.

The PRISMA framework presented in Figure 1 was used to systematically screen and filter data collected from the Scopus database on consumer behavior in green products. Initially, 471 records were identified through database searches. After screen for filtering the papers from disciplines other than Business management, social sciences, Environmental Sciences and Psychology and filtering by retaining only Final published English publications, resulting in the inclusion of 372 records for the next step of eligibility. Inappropriate publication types like books or chapters, conference proceedings were eliminated. Ultimately, 315 studies were included in the qualitative synthesis, ensuring a comprehensive and high-quality dataset for the study.

PRISMA ("Preferred Reporting Items for Systematic Review and Meta-Analysis Flowchart")

PRISMA has been conducted to screen and to remove improper formatting publications, irrelevant, duplicate, conference papers, Books, Book Publications, and the publications in Press. PRISMA has been conducted as follows

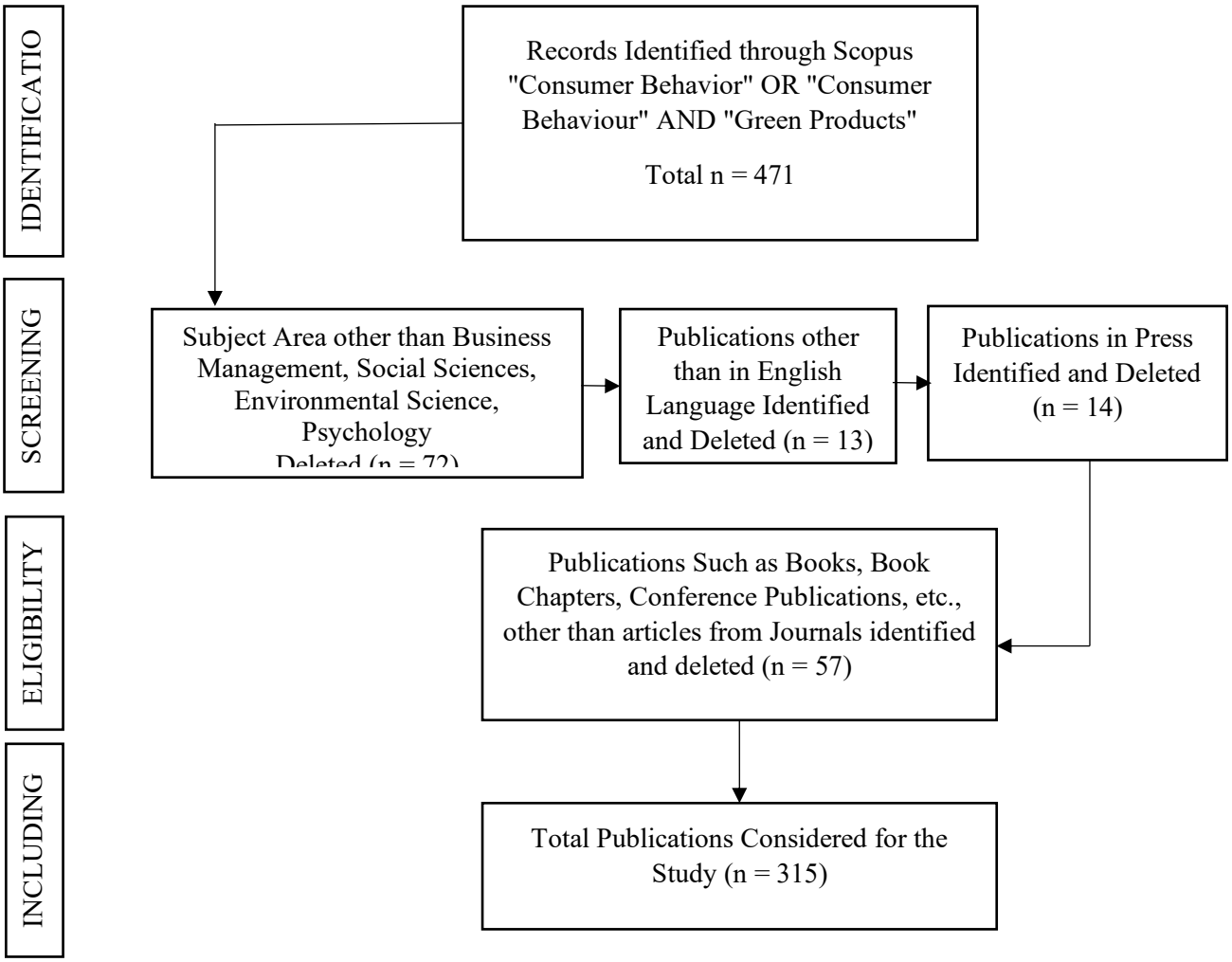

Figure 1; Source: Author(s)

The overview of the literature on consumer behavior regarding green products (Refer figure 2) sourced from the Scopus database, spans from 1994 to 2024. It includes 315 documents from 169 sources, with an annual growth rate of 12.13%. The research involves 864 authors, with 25 single-authored documents and an international co-authorship rate of 25.08%. On average, there are 3.1 co-authors per document. The literature features 957 instances of author keywords and cites a total of 20,274 references. The average age of the documents is approximately five years, and each document has an average of 55.86 citations. This data highlights the extensive and collaborative nature of research in this field, indicating significant academic interest and a robust body of work.

5. Descriptives

Figure 2: Overview of the literature considered for the study; Source: Author(s)

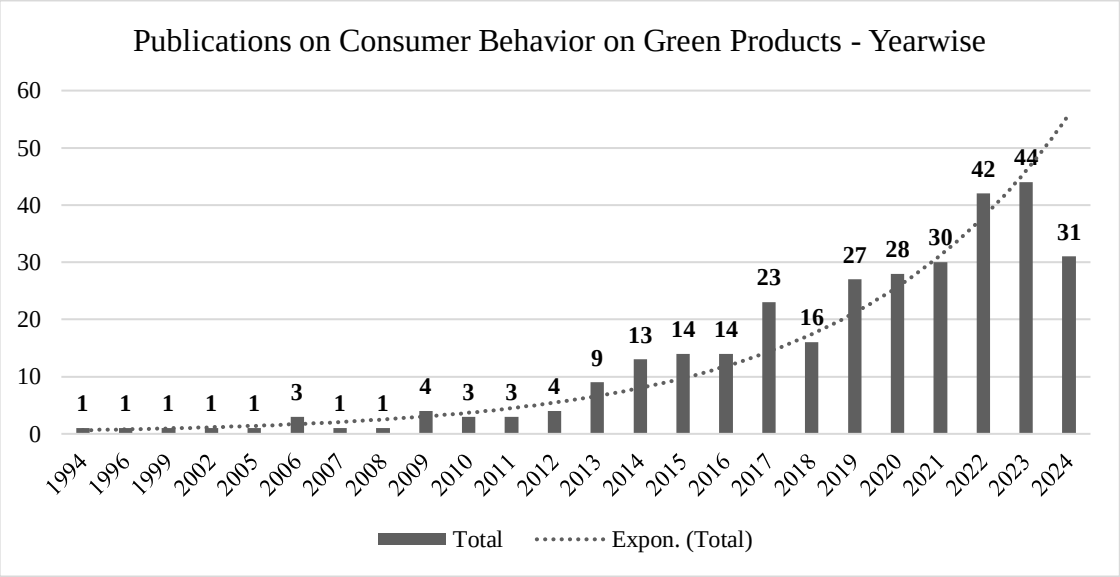

Figure 3: Publications on Consumer Behavior on Green Products; Source: Author(s)

The figure 3 illustrates the increasing trend in publications on consumer behavior towards green products from 1990 to 2024. The number of publications has grown significantly over the years, with a noticeable acceleration in recent times. The exponential trend line indicates that this growth is not just steady but accelerating, reflecting a rising academic interest in sustainability and environmental awareness. This trend underscores the growing importance of green consumer behavior in research and its relevance to current global sustainability efforts.

The table 3 highlights the distribution of research publications across various journals. Leading the list is the 'Journal of Cleaner Production' with 22 publications, followed by 'Sustainability (Switzerland)' with 21, and 'Environmental Science and Pollution Research' with 18. Other notable journals include the 'International Journal of Environmental Research and Public Health' with 13 publications and 'Marketing Intelligence and Planning' with 8. Other journals contributing a total

of 171 publications, indicating a broad range of journals contributing to this field. In total, 315 publications, showcasing the extensive research interest in consumer behavior related to green products.

Table 3: Journals Publishing on Consumer Behavior in Green Products

Journal Title	No. of Publications
Journal of Cleaner Production	22
Sustainability (Switzerland)	21
Environmental Science and Pollution Research	18
International Journal of Environmental Research and Public Health	13
Marketing Intelligence and Planning	8
Journal of Consumer Marketing	6
Business Strategy and the Environment	5
IEEE Transactions on Engineering Management	5
Sustainable Development	5
Ecological Economics	4
Journal of Retailing and Consumer Services	4
Asia Pacific Journal of Marketing and Logistics	4
Technological Forecasting and Social Change	4
Sustainable Production and Consumption	4
Frontiers in Psychology	3
Sustainability (Switzerland)	3
Revista Brasileira de Marketing	3
Innovative Marketing	3
Sustainability Accounting, Management and Policy Journal	3
Journal of International Consumer Marketing	3
Journal of Fashion Marketing and Management	3
Others	171
Grand Total	**315**

6. Bibliometric Results

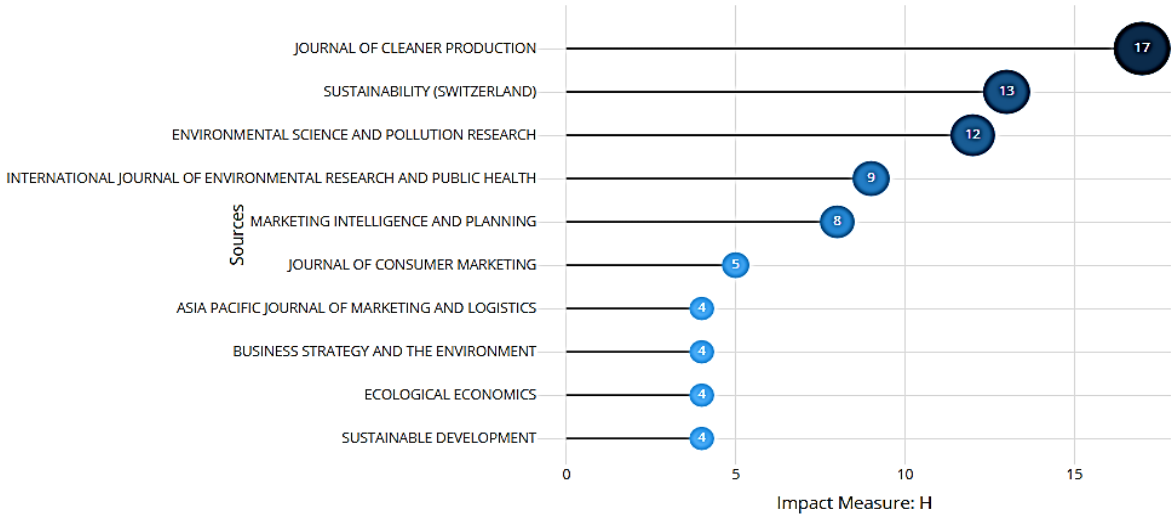

Figure 4: Journals Local Impact Source: Author(s)

The Figure 4 illustrates the local impact of top journals publishing articles on 'Consumer Behavior in Green Products,' measured by their 'H' index. The 'Journal of Cleaner Production' stands out with the highest impact measure of 17, indicating its significant influence in this research area. Following closely are 'Sustainability (Switzerland)' with an H index of 13 and 'Environmental Science and Pollution Research' with 12. Other notable journals include the 'International Journal of Environmental Research and Public Health' (H index of 9) and 'Marketing Intelligence and Planning' (H index of 7). This figure 4 highlights the prominence of these journals in disseminating research on green consumer behavior, with the 'H' index reflecting their citation impact and overall contribution to the field.

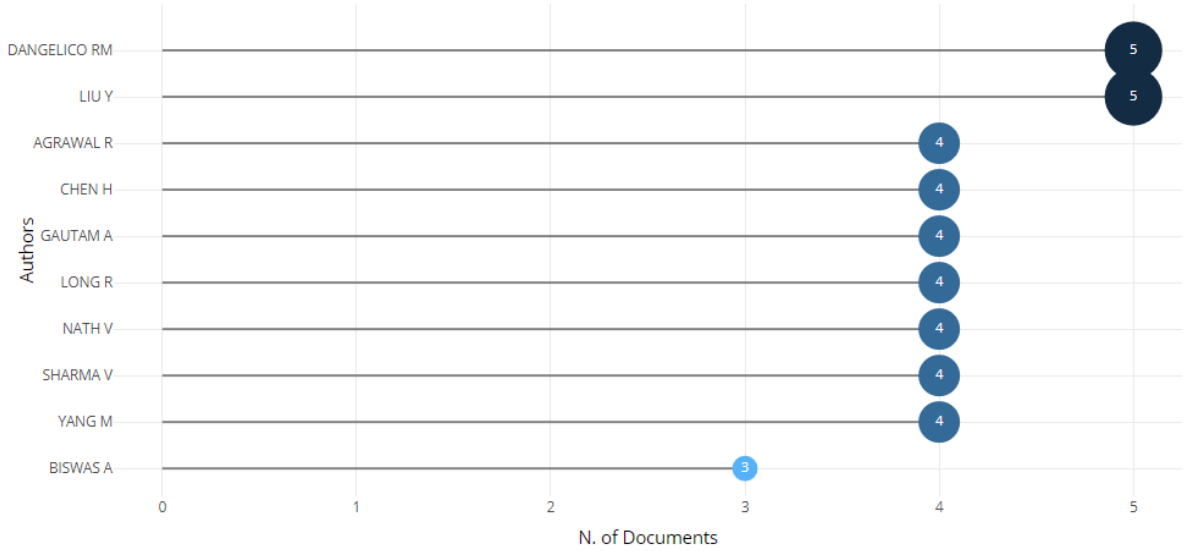

Figure 4: Most Relevant Authors; Source: Author(s)

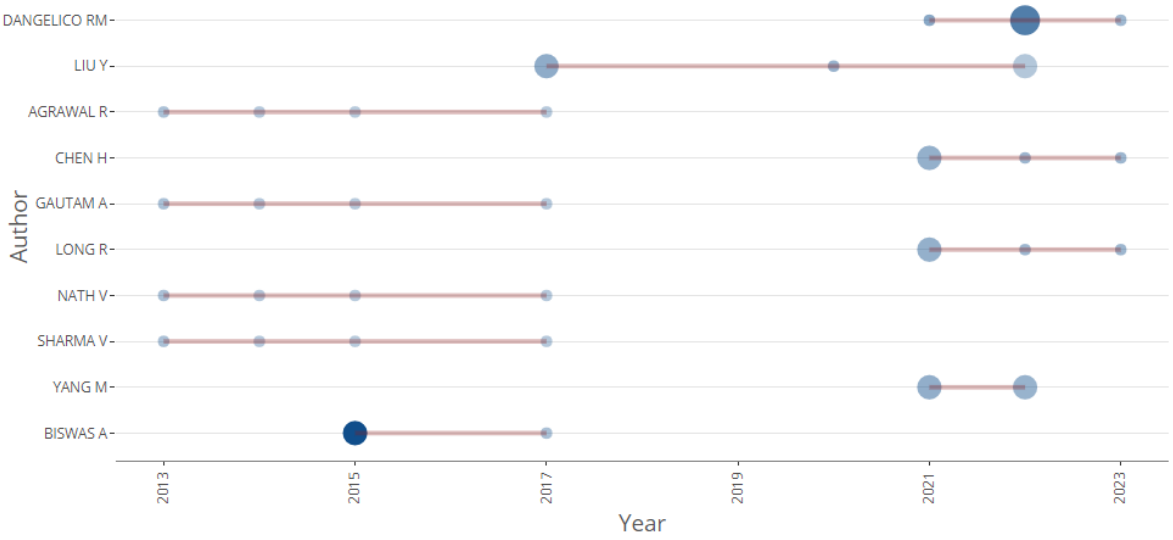

Figure 5: Authors Production overtime; Source: Author(s)

Figure 4 shows the top authors and their number of publications and Figure 5 represents their production of articles overtime on the theme 'Consumer Behavior in Green Products'. D'Angelo RM stands out with a significantly higher number of publications compared to others. The large blue circles indicate a consistent and high volume of research output over several years. Other notable authors include Agrawal R, Chen H, Gautam A, Long R, Nath V, Sharma V, and Yang M, each with a moderate number of publications. Their publication patterns show some consistency, though not as prolific as D'Angelo RM. Biswas A has fewer publications compared to the others, with smaller blue circles indicating a lower volume of research output. The timeline shows a steady increase in publications for D'Angelo RM, indicating sustained research

activity and contribution to the field. For the other authors, the publication patterns show variability. Some have consistent output across multiple years, while others have sporadic contributions with gaps in their publication timeline. D'Angelo RM is the leading contributor in this field, both in terms of the number of publications and consistency over time. The other authors also play significant roles, contributing valuable research, though with varying degrees of consistency and volume. The timeline aspect of the chart helps visualize how research activity in this field has evolved over the years, highlighting periods of increased or decreased publication activity.

The Figure 6, co-occurrence chart visualizes the collaborative relationships among authors publishing on the theme 'Consumer Behavior in Green Products.' Each node represents an author, with the size indicating their significance based on the frequency of co-occurrence. Lines between nodes show co-authorship relationships, while different colors represent distinct clusters of closely associated authors. Larger nodes, such as those for D'Angelo RM and Agrawal R, highlight these authors as central figures within their clusters. The chart reveals key contributors and collaboration patterns, showcasing strong networks within the field and identifying intellectual communities or research groups.

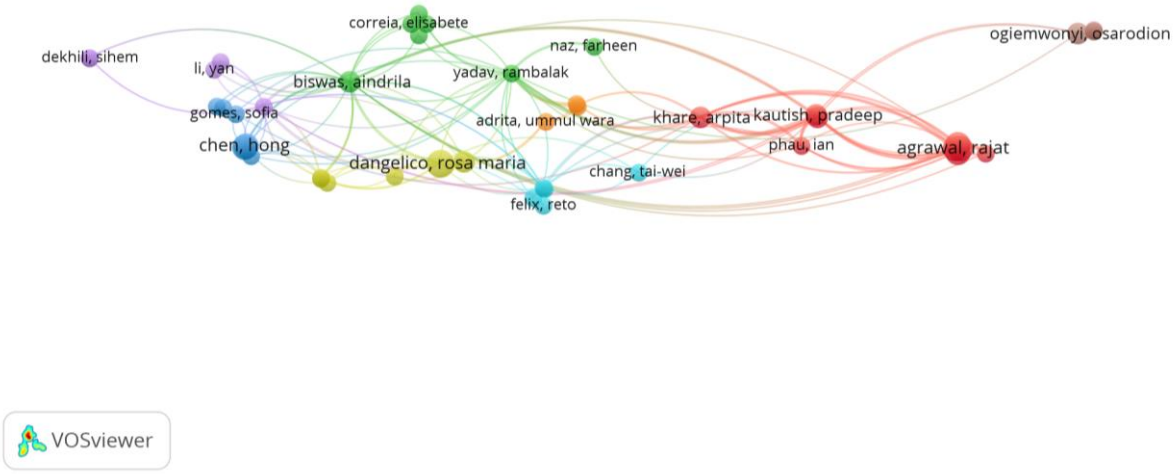

Figure 6: Authors Co-occurrence clusters; Source: Author(s)

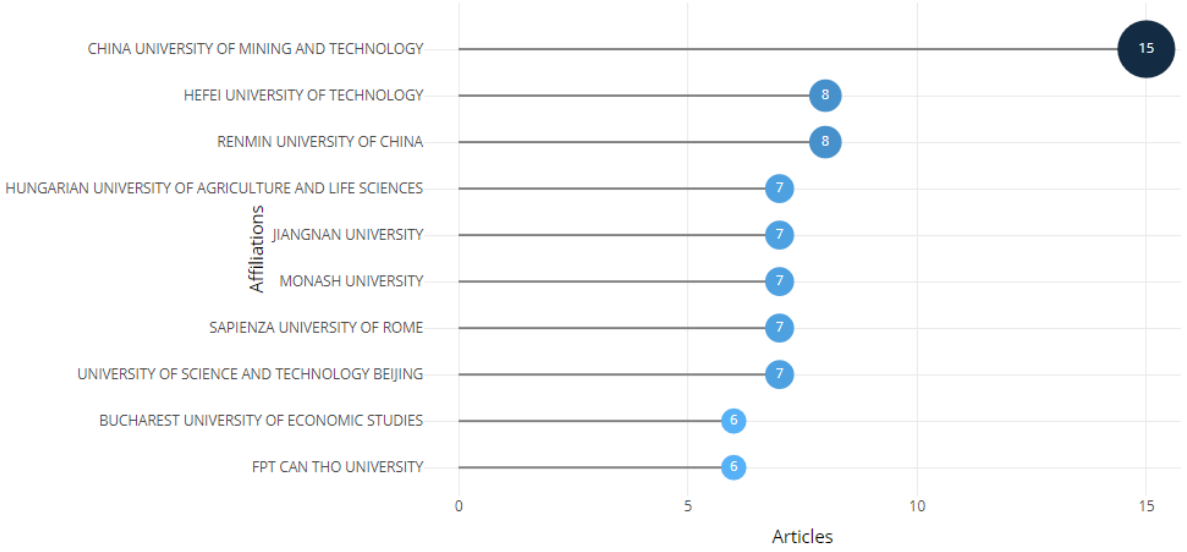

Figure 7: Most Relevant Affiliations; Source: Author(s)

The Figure 7 illustrates the most relevant affiliations of authors publishing on the theme 'Consumer Behavior in Green Products.' The China University of Mining and Technology leads with 15 articles, indicating its significant contribution to

this research area. Other notable institutions include Hefei University of Technology and Renmin University of China, each with 8 articles. The Hungarian University of Agriculture and Life Sciences, Nanjing University, Monash University, Sapienza University of Rome, and University of Science and Technology Beijing each have 7 articles. Additionally, the Bucharest University of Economic Studies and FPT Can Tho University have 6 articles each.

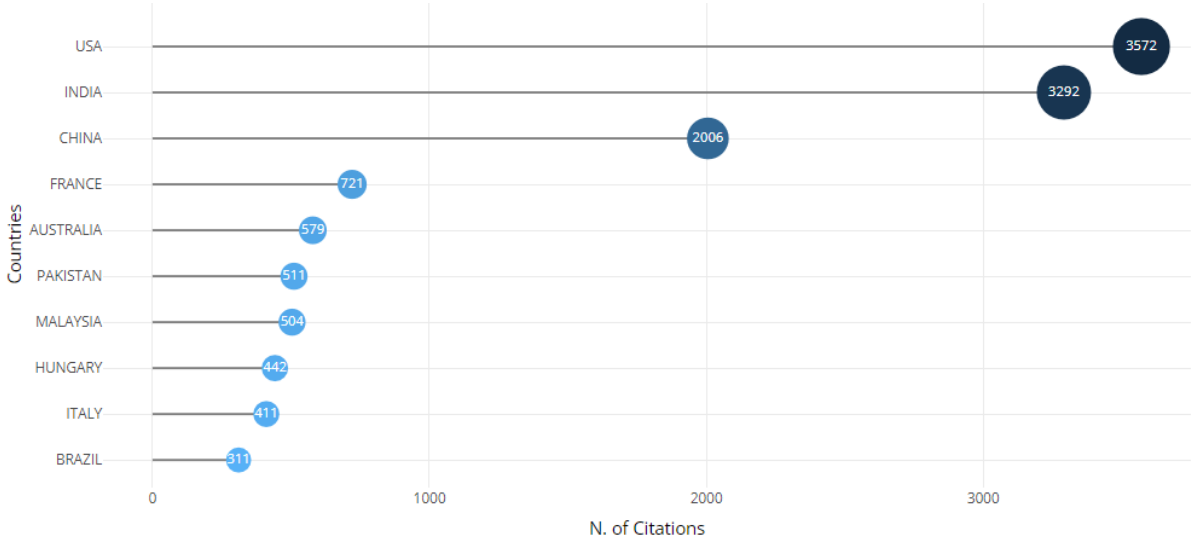

Figure 8: Most Cited Countries; Source: Author(s)

The Figure 8 illustrates the countries with the highest number of citations for publications on Consumer Behavior in Green Products. The United States leads with 3572 citations, indicating its significant influence and contribution to this research area. India follows closely with 3292 citations, showcasing its active role in this field. China ranks third with 2006 citations, further emphasizing its research impact. Other notable countries include France with 721 citations, Australia with 679, and Pakistan with 511. Malaysia, Hungary, Italy, and Brazil also contribute, with Brazil having citations of 311 citations. This graph highlights the global distribution of impactful research on consumer behavior towards green products, with a strong presence from both developed and developing countries.

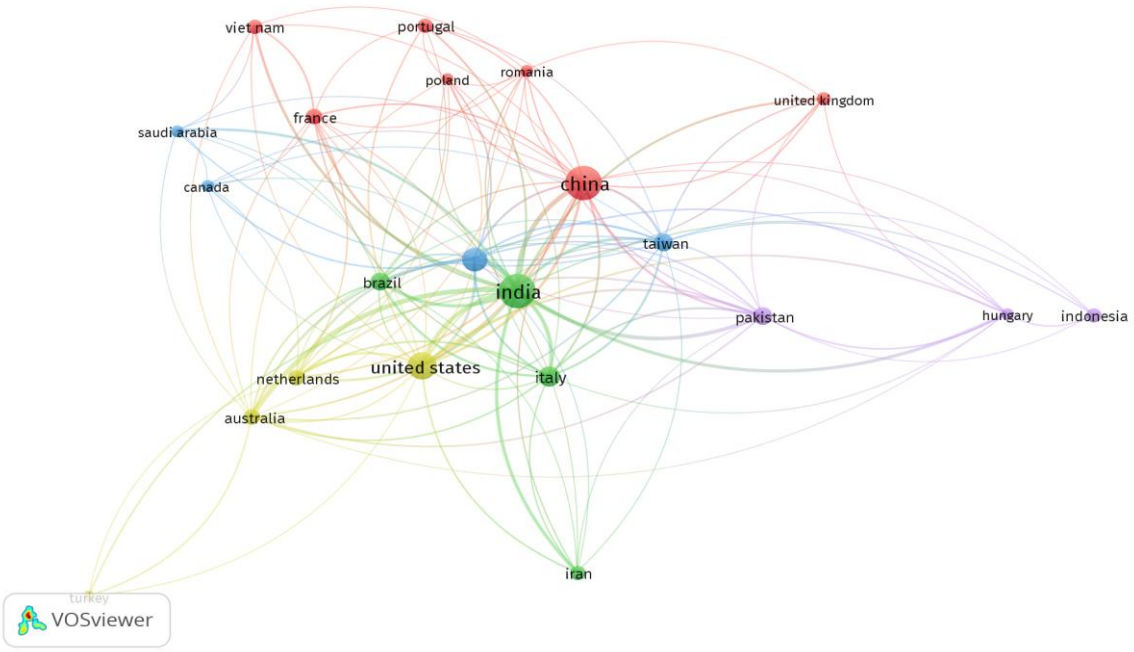

Figure 9: Countries Co-occurrence; Source: Author(s)

The Figure 9 illustrates the collaborative relationships among countries researching Consumer Behavior in green products. Each node represents a country, with the size indicating its level of activity or contribution. The lines between nodes show co-authorship relationships, while different colors denote distinct clusters of closely collaborating countries. Prominent countries like the United States, China, and India have larger nodes, indicating significant collaborative networks and central roles within their clusters. This visualization highlights the global interconnectedness and collaborative efforts in this research area, showcasing how countries work together to advance knowledge on sustainable consumer behavior.

Figure 10: Word Cloud; Source: Author(s)

The Figure 10, word cloud visually represents the most frequently occurring terms in the literature on Consumer Behavior in green products. Prominent terms like “green marketing,” “consumer behavior,” “environmental products,” and “sustainability” stand out, indicating their significant presence and importance in this research area. Other notable terms include “green product,” “environmental concern,” and “sustainable development,” which also appear frequently. Smaller terms such as “green consumer behavior,” “purchase intention,” and “marketing mix” suggest these concepts are also relevant but less dominant or emerging themes. The presence of specific terms like “India” highlights regional studies or focuses within the broader theme. This word cloud effectively summarizes key concepts and areas of focus, providing a quick overview of the main topics and trends in the literature on consumer behavior towards green products.

7. Cluster Analysis

There are 5 clusters identified in the literature. The discussion on each of the clusters is as follows

Green Consumer Values and Effectiveness (Cluster 1):

The items of this cluster are marked in red colour (refer to figure 10)

Items: Consumption Values, Environmental Attitude, Environmental Sustainability, Green Consumer Behavior, Green Consumers, Green Consumption, Green Purchase Behavior, Perceived Consumer Effectiveness, Sustainable Consumption, Willingness to Pay.

This cluster focuses on the values, attitudes, and perceived effectiveness that drive green consumer behavior. It explores the importance of consumer values such as environmental sustainability and willingness to pay for green products. These

factors shape green consumer behavior, highlighting how individuals' values and sense of responsibility influence their purchasing decisions, leading to sustainable consumption.

The studies by (Biswas & Roy, 2015b, 2015a) and Khan & Mohsin (2017) both explore consumer behavior towards green products in emerging economies—India and Pakistan, respectively—through the lens of consumption values. Both found that price sensitivity is a significant factor in green product choices, with consumers weighing functional value (price) heavily in their decision-making processes. However, in both contexts, social values also played a prominent role, particularly among environmentally aware consumers. This emphasis on social and environmental values aligns with the consumption values theory, which highlights multiple dimensions—social, environmental, and emotional—that shape sustainable consumption decisions. Notably, Khan & Mohsin (2017) found that emotional value acts as a moderator, enhancing or diminishing the impact of other values, a factor that Biswas & Roy did not emphasize.

Nguyen et al. (2019), examining green consumption in Vietnam, highlighted the structural factors such as green product availability and perceived consumer effectiveness as key moderators. This adds a layer of complexity to the understanding of green consumer behavior by suggesting that, beyond individual values, contextual elements like availability of green products play a significant role in bridging the attitude-behavior gap. This focus on structural factors contrasts with (Biswas & Roy, 2015b, 2015a) and Khan & Mohsin (2017), who largely focused on personal and social values.

Oliver & Lee (2010) found social value and self-image congruence to be significant in green product purchases in both the US and Korea. However, their research also revealed cultural nuances, with social value having a negative association with general green purchases in the US, compared to a positive effect in Korea. This cultural difference is not as pronounced in the studies by Biswas & Roy and Khan & Mohsin, who focus on emerging economies where social norms more uniformly influence green consumption. Oliver & Lee's findings add complexity by showing that social norms can have varying effects based on cultural context, a nuance not explored in the other studies.

Kautish & Sharma (2019) focused on young consumers in India and found that both terminal and instrumental values shaped green attitudes, which in turn influenced green behavior. This adds a distinct perspective compared to (Biswas & Roy, 2015b, 2015a) by explicitly examining value orientations and their effect on attitudes. Their research aligns with Li et al. (2021a), who categorized environmental values into egoistic, altruistic, and biospheric, and found that altruistic and biospheric values positively influenced green purchase intentions. However, Li et al. (2021a) also identified egoistic values as having a negative impact, a distinction not addressed by (Biswas & Roy, 2015b, 2015a) or Khan & Mohsin (2017). Li et al. (2021a)'s focus on the role of green trust further differentiates their work by examining how trust enhances the relationship between environmental concern and purchase intention.

Grimmer & Woolley (2014) explored how environmental involvement moderates the effectiveness of green marketing messages. They found that consumers with higher environmental involvement responded better to environmentally focused ads, whereas those with lower involvement preferred ads focused on personal benefits. This contrasts with Biswas & Roy and Khan & Mohsin, whose studies did not delve into the effectiveness of green marketing communication based on consumer engagement levels.

Overall, the research on green consumer behavior across regions shows broad agreement on the importance of price sensitivity, social and environmental values, and emotional involvement. However, key differences emerge in the emphasis on structural factors (Nguyen et al., 2019), cultural nuances (Oliver & Lee, 2010), and the role of value orientations (Kautish & Sharma, 2019). This highlights the multifaceted nature of green consumer behavior, where values, emotions, cultural context, and product availability interact in complex ways to influence purchasing decisions.

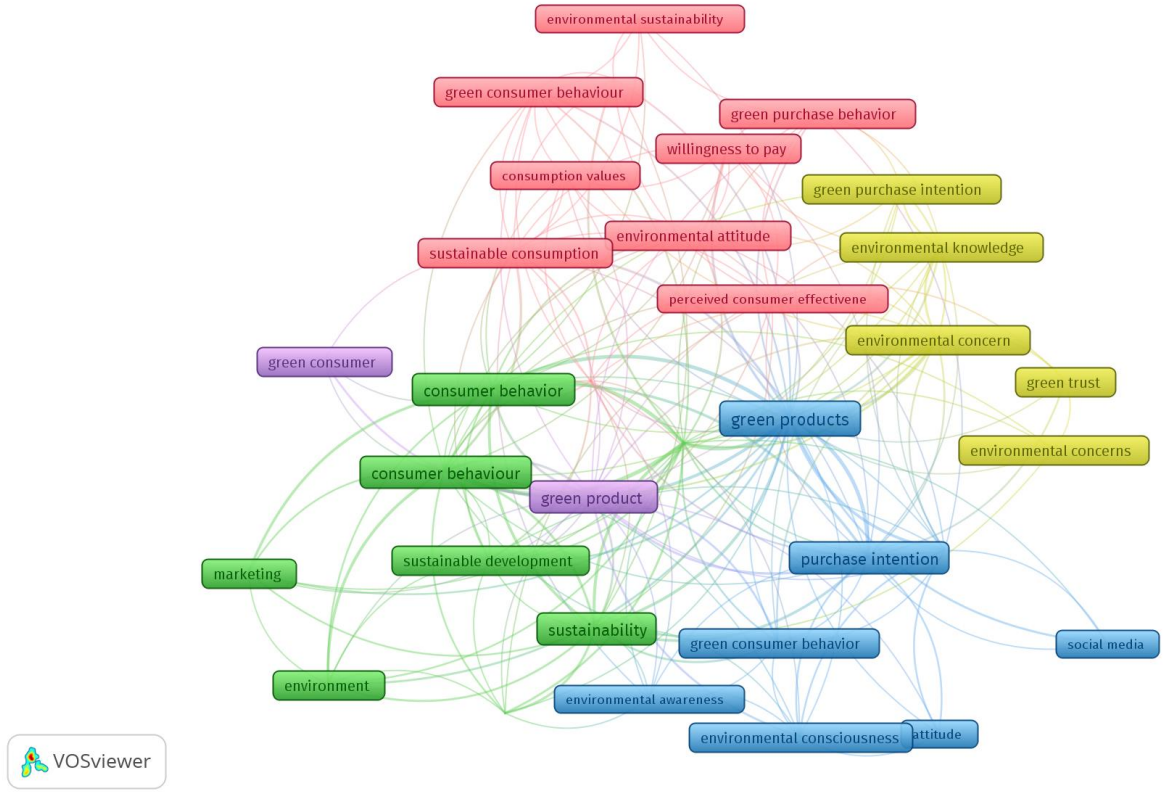

Figure 11: Clusters of literature; Source: The Author(s)

Green Marketing and Sustainable Development (Cluster 2):

The items of this cluster are marked in green colour (refer to figure 11)

Items: Consumer Behavior, Consumer Behaviour, Environment, Green Consumerism, Green Marketing, Marketing, Sustainability, Sustainable Development.

The focus of this cluster is on marketing strategies, green consumerism, and the broader role of sustainability in shaping consumer behavior. It includes discussions on how green marketing appeals to eco-conscious consumers and how businesses can align their practices with sustainability goals. The cluster highlights the relationship between environmental responsibility and corporate marketing, alongside the promotion of sustainable development.

D'Souza et al. (2006) found that while some consumers in Australia found product labels confusing, there was a positive correlation between price sensitivity and the tendency to read and rely on product labels for green products. These findings suggest that businesses need to offer clear and accurate labeling to enhance green product satisfaction. In contrast, Goh & Balaji (2016a) focused on consumer skepticism in Malaysia, showing that skepticism about environmental claims negatively impacted green purchase behavior. This skepticism was mediated by environmental knowledge and concern, both of which played a critical role in influencing purchase intentions.

In India, Khare (2015) and Kumar & Ghodeswar (2015) examined green consumer behavior through different lenses. Khare (2015) found that factors like green self-identity, peer influence, and past buying behavior were key predictors of green purchasing. Kumar & Ghodeswar (2015), on the other hand, identified environmental responsibility, green product experience, and social appeal as important drivers for green purchases, highlighting how consumers in India are influenced by both personal and social factors. Mostafa (2006), studying Egyptian consumers, found that ecological knowledge and concern, along with perceived effectiveness of green products, were significant predictors of green purchase behavior. Notably, skepticism towards environmental claims reduced the likelihood of green purchases, which is consistent with Goh's findings in Malaysia.

do Paço & Raposo (2009) in Portugal identified different market segments based on environmental and demographic variables, revealing that, while many consumers supported environmental policies, their concerns did not always translate

into green behaviors. In contrast, Phau & Ong (2007) examined the responses of Australian consumers to environmental claims in clothing marketing, finding that product-related environmental claims were more positively received than cause-related messages, especially for trusted green brands.

Kautish & Sharma (2020) extended the Theory of Planned Behavior in the Indian context, showing that environmental concern, knowledge, and perceived environmental consequences significantly influenced environmentally conscious behavior (ECCB) and willingness to engage in environmentally friendly behavior (WEF). Similarly, Nekmahmud et al. (2022) explored how social media marketing influenced green product purchase intentions, demonstrating that social media played a crucial role in shaping attitudes, subjective norms, and behavioral control regarding green purchases.

Across these studies, there are both similarities and contrasts. Many authors agree that environmental knowledge and concern are pivotal to green consumer behavior (Kautish & Sharma, 2020; Mostafa, 2006). However, the degree to which skepticism affects green purchases varies: in Malaysia and Egypt, skepticism negatively impacts green purchases (Goh & Balaji, 2016a; Mostafa, 2006), while in Australia, clear product-related environmental claims help overcome consumer doubts (Phau & Ong, 2007). In India, personal identification with environmental values (Khare, 2015) and social appeal (Kumar & Ghodeswar, 2015) play important roles, suggesting a more identity-driven approach to green consumption in this context.

Psychosocial Drivers of Green Behavior (Cluster 3):

The items of this cluster are marked in blue colour (refer to figure 11)

Items: Attitude, Environmental Awareness, Environmental Consciousness, Green Consumer Behavior, Green Products, Purchase Intention, Social Media, Theory of Planned Behavior.

This cluster revolves around the psychological and social factors that influence green consumer behavior. It includes attitudes, awareness, and intention to purchase green products, focusing on how individuals' environmental consciousness shapes their buying decisions. The inclusion of the Theory of Planned Behavior and social media suggests the role of both psychological theories and modern digital platforms in promoting green behaviors.

Many studies agree on the critical role of consumer attitudes and perceived behavioral control in green product adoption. Chen & Hung (2016) found that attitudes and perceived behavioral control positively influence green product adoption, while subjective norms and social impressions were not significantly correlated with purchase intentions. This is consistent with Costa et al. (2021)’s finding that attitudes are a primary driver of green behavior, though Costa's research revealed that previous purchase experiences did not significantly influence attitudes or environmental consciousness, contradicting initial hypotheses. Similarly, Kim & Lee (2023) also found that environmental knowledge, rather than general environmental interest, significantly impacts green product purchase intentions, underscoring the role of informed attitudes.

The role of social influences shows both convergence and divergence. Carrete et al. (2012) highlighted how green behavior in Mexican consumers is rooted in traditional values of savings and frugality rather than environmental values. This contrasts with Chen & Hung (2016)’s findings where subjective norms had no significant influence on green behavior. However, Muralidharan & Xue (2016) found that peer communication influenced Indian millennials' green buying behavior, while family influence was more critical in China. This demonstrates that social influence on green behavior can vary across cultures and socioeconomic contexts, aligning with Aagerup & Nilsson (2016)’s findings that anticipated conspicuousness in social settings drives green consumption, particularly for those sensitive to social comparison.

Several studies also explore the gap between environmental attitudes and actual behavior. (Costa et al., 2021) and (Kim & Lee, 2023) both address the attitude-behavior gap, with Costa emphasizing that green purchase experiences are context-dependent, while Kim focuses on situational factors such as ease of purchase and eco-label credibility as moderators that bridge the gap. Similarly, Chaihanchanchai & Anantachart (2023) identified environmental knowledge and green values as moderators, noting that consumers with low green values but high environmental knowledge displayed stronger links between attitude and behavior. This suggests that while attitudes are necessary for green behavior, situational and contextual factors play a crucial role in ensuring they translate into action.

(Nittala, 2014) and (Carrete et al., 2012) emphasize the role of education and information in shaping green consumption. Nittala found that a lack of information negatively impacts green product purchases among university teachers, while Carrete highlighted consumer confusion and distrust as barriers to adopting green behaviors in Mexico. These findings

align with Dangelico et al. (2022)'s results, which showed that indicators like label information and expert opinions were critical factors influencing green purchasing decisions.

Contradictions emerge in how previous experiences influence behavior. Costa et al. (2021) found that previous purchase experiences did not significantly influence attitudes or environmental consciousness, while Dangelico et al. (2022) found that consumer familiarity with eco-friendly fashion products—either through direct or indirect experience—positively impacted both purchase intention and willingness to pay a premium. This discrepancy may be due to differences in product categories (fashion vs. general green products) and regional contexts (Italy vs. Brazil).

The studies also highlight differences based on cultural and socioeconomic contexts. While Carrete et al. (2012) emphasized that green behaviors in Mexico stem from cultural traditions of frugality, Muralidharan & Xue (2016) found that Indian millennials were more influenced by peers, while family was more influential in China. In contrast, Dangelico et al. (2022) reported that green purchasing behavior in Azerbaijan varied by education, income, and household composition, further emphasizing the contextual nature of green behavior.

Environmental Concern and Trust in Green Products (Cluster 4):

The items of this cluster are marked in yellow colour (refer to figure 11)

Items: Environmental Concern, Environmental Knowledge, Green Purchase Intention, Green Trust.

This cluster examines how environmental concern and knowledge contribute to trust in green products, which in turn influences green purchase intentions. It addresses the link between a consumer's concern for the environment, the knowledge they have about eco-friendly products, and how these aspects foster trust and shape purchasing decisions.

Across many studies, environmental concern consistently emerges as a key factor in driving consumers' green product purchasing behavior. Yadav & Pathak (2016) extended the Theory of Planned Behavior (TPB) by incorporating environmental concern, demonstrating that this factor improved the predictive utility of the TPB framework in understanding young consumers' intentions to buy green products in India. Similarly, Goh & Balaji (2016b) found that environmental concern mediates the relationship between green skepticism and purchase intention in Malaysia, suggesting that it plays a vital role in overcoming skepticism and encouraging green purchases. Cerri et al. (2018) reinforced these findings, showing that environmental concern interacts with attitudes towards ecolabels to influence purchasing decisions in Italy.

However, some nuances exist regarding how environmental concern functions. For example, Cerri et al. (2018) found that while environmental concern interacts with ecolabels, it decreases in importance when consumers already have high levels of environmental concern, suggesting diminishing returns in some contexts. Furthermore, Rahman & Reynolds (2019) differentiated between ecocentric and anthropocentric attitudes derived from environmental concern, showing that these attitudes differently affect consumers' intentions to visit green hotels, indicating a more complex interplay of values and concerns.

Trust in green products has been identified as a critical factor influencing consumer behavior. Li et al. (2021b) explored green trust as a moderating variable and found that it significantly strengthens the relationship between environmental concern and green product purchase intentions. This finding is consistent with Hameed et al. (2019), who integrated green trust into the TPB framework and found that trust in green products plays an essential role in shaping eco-conscious behavior in Pakistan.

Contradictory evidence regarding trust comes from Liu et al. (2017), who, while focusing on the Theory of Reasoned Action (TRA) and the Cognitive-Affect-Behavior (CAB) model, found that product knowledge enhances the effectiveness of these models. This finding suggests that consumers' knowledge about green products could serve as a substitute for trust, minimizing the importance of green trust in certain contexts. This notion is further supported by Cerri et al. (2018), who emphasizes the importance of information and eco-labeling over trust in shaping consumer behavior, particularly among highly environmentally concerned consumers.

Goh & Balaji (2016b) highlighted the detrimental effect of skepticism on both environmental concern and trust. In Malaysia, skepticism about green claims reduced environmental concern and knowledge, subsequently lowering purchase intentions. This suggests that even if consumers have some degree of environmental concern, skepticism about the authenticity of green products can erode trust and limit green purchasing. In contrast, Yadav & Pathak (2016) did not

explore skepticism directly but implied that trust in environmental claims was relatively high among young Indian consumers, given the positive relationship between environmental concern and green purchasing intention.

Cultural and regional differences also influence the relationship between environmental concern, trust, and green consumption. For example, Sun et al. (2022) found that in China, social pressure plays a dual moderating role—positively affecting green purchase intentions while simultaneously mitigating the impact of perceived cost and price sensitivity on green purchasing. In contrast, Yadav & Pathak (2016) and Goh & Balaji (2016b) found no significant moderating role for social norms or peer influence, suggesting that social factors may play a more prominent role in collectivist cultures such as China.

Li et al. (2021b) categorized environmental values into egoistic, altruistic, and biospheric values and found that altruistic and biospheric values positively impact green product purchase intention, while egoistic values have a negative impact. The study also confirmed that green trust moderates the relationship between environmental concern and purchase intention. This aligns with Hameed et al. (2019), who also found that environmental values influence green trust and behavior. However, in contrast to these findings, Rahman & Reynolds (2019) focused more on the interplay between biospheric, altruistic, and egoistic values in green hotels, arguing that the personal benefit or status perspective (egoistic values) can still positively influence green behavior, particularly if consumers perceive social or personal rewards.

Green Consumer and Product Identification (Cluster 5):

The items of this cluster are marked in violet colour (refer to figure 11)

Items: Green Consumer, Green Product.

Discussion: This cluster is focused on the identification of green consumers and products, emphasizing the importance of defining what makes a consumer or product "green." It reflects the fundamental aspects of eco-consciousness, where specific behaviors and characteristics differentiate green consumers from others. The cluster underscores the need to understand the unique features that drive the adoption of green products.

Barbarossa & Pastore (2015) and Narula & Desore (2016) both emphasize the need to bridge the gap between consumer attitudes and actual purchasing behaviors. Barbarossa identifies price and availability as primary barriers to green purchases but also notes that perceptions of these barriers can be influenced by other factors, such as in-store communication and product placement. Narula, on the other hand, highlights a broader range of challenges in green marketing, including the need for better alignment between consumer perceptions and product design, and the importance of incorporating stakeholder perspectives. Both studies underscore the discrepancy between consumers' environmental values and their purchasing actions, suggesting that addressing these barriers could enhance the adoption of green products.

Nath et al. (2013) contributes to this discussion by focusing on enablers rather than barriers. His study, through Interpretive Structural Modeling, identifies factors that facilitate the adoption of green products, which contrasts with Barbarossa's and Narula's focus on impediments. Nath's work suggests that understanding the enablers and their effects on green consumer behavior can be as crucial as addressing the barriers.

Liu & Xiao (2020) offers a more specific investigation into the operational aspects of green supply chains, examining how the degree of environmental responsibility among manufacturers and consumers impacts pricing, collection rates, and overall system efficiency. This research extends the discussion by linking green consumer behavior with supply chain decisions, highlighting the importance of operational strategies in supporting green consumption. The focus here is on how reverse logistics and collection strategies can influence green product outcomes, a dimension not covered by the other studies.

Luzio & Lemke (2013) explores the perceptions of green consumers in a marketplace context, revealing that green consumers often represent an artificial segment with unique demands and consumption processes. This study contrasts with the others by suggesting that mainstreaming green products might be more effective than targeting niche segments. Luzio's findings imply that focusing solely on green consumers as a distinct segment may not be as beneficial as integrating green products into the broader market.

Knez et al. (2014) shifts the focus to specific green technologies, such as alternative fuel vehicles. His research identifies price as a key factor in purchasing decisions and finds a larger than expected segment of potential buyers, including older

consumers. This study provides a sector-specific perspective, contrasting with the broader focus of other research on general green consumer behavior.

Sivapalan et al. (2021) explores the roles of personal and consumption values in green behavior, proposing a conceptual model to address gaps in understanding the associations between these values. This research adds depth to the discussion by integrating value systems into the analysis of green consumer behavior, suggesting that both personal and consumption values play critical roles in influencing purchasing decisions.

8. Thematic Evolution

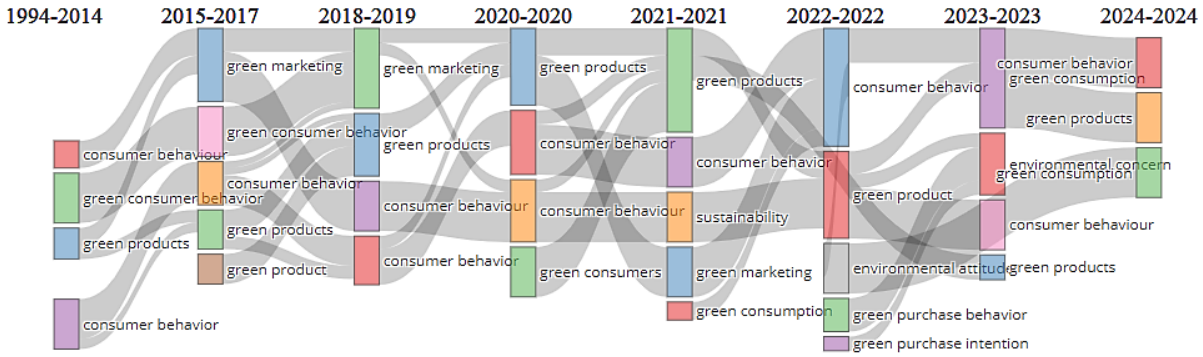

Figure 12: Thematic Evolution; Source: The Author(s)

The figure 12 illustrates the thematic evolution where how the focus on various aspects of consumer behavior in green products has changed over time, based on bibliometric analysis from Scopus data. Starting from 1994, the theme of "green marketing" emerged and remained relevant until around 2017, indicating a long-standing interest in how marketing strategies can promote environmentally friendly products. During this period, "consumer behavior" also consistently appeared as a significant theme, reflecting ongoing research into how consumers' attitudes and actions influence their purchasing decisions regarding green products.

From 2018 onwards, new themes such as "sustainability" and "environmental concern" gained prominence, suggesting a shift towards broader environmental issues and their impact on consumer behavior. This period also saw the emergence of "green products" and "green purchase behavior" as key areas of study, highlighting a growing interest in understanding the specific factors that drive consumers to choose environmentally friendly products.

The chart shows that "consumer behavior" remains a central theme throughout the entire timeline, underscoring its importance in the study of green consumerism. The more recent focus on "sustainability" and "environmental concern" indicates an evolving research landscape that increasingly considers the long-term implications of consumer choices on the environment.

Overall, this thematic evolution chart provides valuable insights into how academic and market interests have shifted over time in response to global environmental concerns and consumer awareness. It highlights the dynamic nature of research in this field and suggests potential future trends in studying consumer behavior towards green products.

9. Research Gaps and Future Research Directions

Despite the extensive research on consumer behavior towards green products, several critical gaps remain in the literature, indicating opportunities for future exploration.

1. **Cultural and Regional Variations**: Although studies have examined green consumer behavior across various regions, comparative cross-cultural analyses are limited. Most studies focus on specific countries, such as India and China (Muralidharan & Xue, 2016), Australia (D'Souza et al., 2006), or the United States and Korea (Oliver & Lee, 2010). However, there is a gap in understanding how cultural, social, and economic factors affect green consumer behavior globally. Further research could provide deeper insights into how consumers from different cultural backgrounds engage with green products.

2. **Longitudinal Studies**: Much of the existing literature provides a snapshot of consumer behavior at a given time (Biswas & Roy, 2015b, 2015a; Khan & Mohsin, 2017), but there is a lack of longitudinal research that tracks how consumer attitudes and behaviors evolve. Longitudinal studies would help reveal how external factors like policy changes, economic conditions, or environmental crises influence long-term green purchasing trends.

3. **Behavioral-Intention Gap**: The gap between consumers' intentions and actual behavior is well-documented (Nguyen et al., 2019), but more research is needed to identify specific barriers, such as price sensitivity (Biswas & Roy, 2015b), product availability (Nguyen et al., 2019), and green skepticism (Goh & Balaji, 2016b). Understanding these obstacles in different contexts will help develop strategies to close this gap and promote actual sustainable consumption.

4. **Psychosocial Drivers Across Demographics**: While studies have explored general factors influencing green consumer behavior, such as environmental concern and perceived behavioral control (Yadav & Pathak, 2016), there is limited research on how these drivers vary across demographics. Research by (Kautish & Sharma, 2019) highlights the importance of values, but more studies are needed to explore how age, income, and gender influence green purchasing behaviors.

5. **Impact of Digital Platforms**: Digital marketing and social media play a crucial role in shaping consumer behavior, yet there is limited research on how these platforms influence green product purchases. Nekmahmud et al. (2022) emphasize the importance of social media in driving green behavior, but more studies are required to assess the effectiveness of digital campaigns in promoting green products and shaping eco-friendly attitudes.

6. **Corporate Influence and Greenwashing**: Although consumer skepticism towards green marketing has been noted (Goh & Balaji, 2016a; Mostafa, 2006), there is a gap in research on how corporations can regain consumer trust and communicate their sustainability efforts more effectively. Additionally, studies examining the long-term effects of greenwashing on consumer trust and behavior are scarce, though they are crucial for understanding how to build transparent, credible green marketing strategies.

7. **Sustainability Beyond Green Products**: Much of the research focuses solely on green products, neglecting other aspects of sustainability, such as services, packaging, and the circular economy (Barbarossa & Pastore, 2015). Further research could explore how consumers engage with broader sustainability practices, such as reducing waste or opting for sustainable services, to gain a more holistic view of green consumption.

Addressing these gaps through targeted research would provide a more comprehensive understanding of green consumer behavior and support the development of more effective strategies for promoting sustainable consumption across diverse contexts.

10. Conclusion

This bibliometric study provides a detailed overview of the academic research on consumer behavior towards green products, highlighting key trends, influential contributors, and thematic clusters. The analysis reveals a growing body of literature, reflecting the increasing importance of sustainability and environmental responsibility in both academic research and consumer markets. The five identified clusters—green consumer values, green marketing and sustainable development, psychosocial drivers of behavior, environmental concern and trust, and green consumer and product identification—capture the diverse factors that influence green purchasing decisions.

Despite the significant advances in the field, several research gaps remain. There is a need for more cross-cultural and longitudinal studies to better understand the evolving nature of green consumer behavior across different contexts. Additionally, the behavioral-intention gap, the influence of digital platforms on green consumption, and the long-term effects of corporate greenwashing require deeper exploration. Addressing these gaps can lead to a more nuanced understanding of the factors driving sustainable consumption and can help businesses and policymakers develop more effective strategies to promote eco-friendly behavior.

This study not only maps the intellectual landscape of green consumer behavior but also underscores the critical areas where future research can contribute. As global interest in sustainability continues to grow, so too will the need for robust academic insights that can inform and shape consumer behavior, corporate practices, and environmental policy. Ultimately, advancing this research is essential for fostering a more sustainable and environmentally conscious global economy.

References

1. Aagerup, U., & Nilsson, J. (2016). Green consumer behavior: being good or seeming good? *Journal of Product and Brand Management*, *25*(3), 274–284. https://doi.org/10.1108/JPBM-06-2015-0903/FULL/XML
2. Baas, J., Schotten, M., Plume, A., Côté, G., & Karimi, R. (2020). Scopus as a curated, high-quality bibliometric data source for academic research in quantitative science studies. *Quantitative Science Studies*, *1*, 1–10. https://doi.org/10.1162/qss_a_00019
3. Barbarossa, C., & Pastore, A. (2015). Why environmentally conscious consumers do not purchase green products: A cognitive mapping approach. *Qualitative Market Research*, *18*(2), 188–209. https://doi.org/10.1108/QMR-06-2012-0030/FULL/XML
4. Biswas, A., & Roy, M. (2015a). Green products: an exploratory study on the consumer behaviour in emerging economies of the East. *Journal of Cleaner Production*, *87*(1), 463–468. https://doi.org/10.1016/J.JCLEPRO.2014.09.075
5. Biswas, A., & Roy, M. (2015b). Leveraging factors for sustained green consumption behavior based on consumption value perceptions: testing the structural model. *Journal of Cleaner Production*, *95*, 332–340. https://doi.org/10.1016/J.JCLEPRO.2015.02.042
6. Carrete, L., Castaño, R., Felix, R., Centeno, E., & González, E. (2012). Green consumer behavior in an emerging economy: Confusion, credibility, and compatibility. *Journal of Consumer Marketing*, *29*(7), 470–481. https://doi.org/10.1108/07363761211274983/FULL/XML
7. Cerri, J., Testa, F., & Rizzi, F. (2018). The more I care, the less I will listen to you: How information, environmental concern and ethical production influence consumers' attitudes and the purchasing of sustainable products. *Journal of Cleaner Production*, *175*, 343–353. https://doi.org/10.1016/J.JCLEPRO.2017.12.054
8. Chaihanchanchai, P., & Anantachart, S. (2023). Encouraging green product purchase: Green value and environmental knowledge as moderators of attitude and behavior relationship. *Business Strategy and the Environment*, *32*(1), 289–303. https://doi.org/10.1002/BSE.3130
9. Chen, S. C., & Hung, C. W. (2016). Elucidating the factors influencing the acceptance of green products: An extension of theory of planned behavior. *Technological Forecasting and Social Change*, *112*, 155–163. https://doi.org/10.1016/J.TECHFORE.2016.08.022
10. Costa, C. S. R., Costa, M. F. da, Maciel, R. G., Aguiar, E. C., & Wanderley, L. O. (2021). Consumer antecedents towards green product purchase intentions. *Journal of Cleaner Production*, *313*, 127964. https://doi.org/10.1016/J.JCLEPRO.2021.127964
11. Dangelico, R. M., Alvino, L., & Fraccascia, L. (2022). Investigating the antecedents of consumer behavioral intention for sustainable fashion products: Evidence from a large survey of Italian consumers. *Technological Forecasting and Social Change*, *185*, 122010. https://doi.org/10.1016/J.TECHFORE.2022.122010
12. do Paço, A., & Raposo, M. (2009). "Green" segmentation: An application to the Portuguese consumer market. *Marketing Intelligence and Planning*, *27*(3), 364–379. https://doi.org/10.1108/02634500910955245/FULL/XML
13. D'Souza, C., Taghian, M., & Lamb, P. (2006). An empirical study on the influence of environmental labels on consumers. *Corporate Communications*, *11*(2), 162–173. https://doi.org/10.1108/13563280610661697/FULL/XML
14. Goh, S. K., & Balaji, M. S. (2016a). Linking green skepticism to green purchase behavior. *Journal of Cleaner Production*, *131*, 629–638. https://doi.org/10.1016/J.JCLEPRO.2016.04.122
15. Goh, S. K., & Balaji, M. S. (2016b). Linking green skepticism to green purchase behavior. *Journal of Cleaner Production*, *131*, 629–638. https://doi.org/10.1016/J.JCLEPRO.2016.04.122
16. Grimmer, M., & Woolley, M. (2014). Green marketing messages and consumers' purchase intentions: Promoting personal versus environmental benefits. *Journal of Marketing Communications*, *20*(4), 231–250. https://doi.org/10.1080/13527266.2012.684065
17. Hameed, I., Waris, I., & Haq, M. A. (2019). Predicting eco-conscious consumer behavior using theory of planned behavior in Pakistan. *Environmental Science and Pollution Research*, *26*(15), 15535–15547. https://doi.org/10.1007/S11356-019-04967-9/METRICS
18. Kautish, P., & Sharma, R. (2019). Value orientation, green attitude and green behavioral intentions: an empirical investigation among young consumers. *Young Consumers*, *20*(4), 338–358. https://doi.org/10.1108/YC-11-2018-0881/FULL/XML

19. Kautish, P., & Sharma, R. (2020). Determinants of pro-environmental behavior and environmentally conscious consumer behavior: An empirical investigation from emerging market. *Business Strategy & Development*, *3*(1), 112–127. https://doi.org/10.1002/BSD2.82
20. Khan, S. N., & Mohsin, M. (2017). The power of emotional value: Exploring the effects of values on green product consumer choice behavior. *Journal of Cleaner Production*, *150*, 65–74. https://doi.org/10.1016/J.JCLEPRO.2017.02.187
21. Khare, A. (2015). Antecedents to green buying behaviour: A study on consumers in an emerging economy. *Marketing Intelligence and Planning*, *33*(3), 309–329. https://doi.org/10.1108/MIP-05-2014-0083/FULL/XML
22. Kim, N., & Lee, K. (2023). Environmental Consciousness, Purchase Intention, and Actual Purchase Behavior of Eco-Friendly Products: The Moderating Impact of Situational Context. *International Journal of Environmental Research and Public Health 2023, Vol. 20, Page 5312*, *20*(7), 5312. https://doi.org/10.3390/IJERPH20075312
23. Knez, M., Jereb, B., & Obrecht, M. (2014). Factors influencing the purchasing decisions of low emission cars: A study of Slovenia. *Transportation Research Part D: Transport and Environment*, *30*, 53–61. https://doi.org/10.1016/J.TRD.2014.05.007
24. Kumar, P., & Ghodeswar, B. M. (2015). Factors affecting consumers' green product purchase decisions. *Marketing Intelligence and Planning*, *33*(3), 330–347. https://doi.org/10.1108/MIP-03-2014-0068/FULL/XML
25. Li, G., Yang, L., Zhang, B., Li, X., & Chen, F. (2021a). How do environmental values impact green product purchase intention? The moderating role of green trust. *Environmental Science and Pollution Research*, *28*(33), 46020–46034. https://doi.org/10.1007/S11356-021-13946-Y/METRICS
26. Li, G., Yang, L., Zhang, B., Li, X., & Chen, F. (2021b). How do environmental values impact green product purchase intention? The moderating role of green trust. *Environmental Science and Pollution Research*, *28*(33), 46020–46034. https://doi.org/10.1007/S11356-021-13946-Y/METRICS
27. Liu, Y., Segev, S., & Villar, M. E. (2017). Comparing two mechanisms for green consumption: cognitive-affect behavior vs theory of reasoned action. *Journal of Consumer Marketing*, *34*(5), 442–454. https://doi.org/10.1108/JCM-01-2016-1688/FULL/XML
28. Liu, Y., & Xiao, T. (2020). Pricing and Collection Rate Decisions and Reverse Channel Choice in a Socially Responsible Supply Chain with Green Consumers. *IEEE Transactions on Engineering Management*, *67*(2), 483–495. https://doi.org/10.1109/TEM.2018.2887118
29. Luzio, J. P. P., & Lemke, F. (2013). Exploring green consumers' product demands and consumption processes: The case of Portuguese green consumers. *European Business Review*, *25*(3), 281–300. https://doi.org/10.1108/09555341311314825/FULL/XML
30. Mostafa, M. M. (2006). Antecedents of Egyptian Consumers' Green Purchase Intentions. *Journal of International Consumer Marketing*, *19*(2), 97–126. https://doi.org/10.1300/J046V19N02_06
31. Muralidharan, S., & Xue, F. (2016). Personal networks as a precursor to a green future: a study of "green" consumer socialization among young millennials from India and China. *Young Consumers*, *17*(3), 226–242. https://doi.org/10.1108/YC-03-2016-00586/FULL/XML
32. Narula, S. A., & Desore, A. (2016). Framing green consumer behaviour research: Opportunities and challenges. *Social Responsibility Journal*, *12*(1), 1–22. https://doi.org/10.1108/SRJ-08-2014-0112/FULL/XML
33. Nath, V., Kumar, R., Agrawal, R., Gautam, A., & Sharma, V. (2013). Consumer Adoption of Green Products: Modeling the Enablers. *Http://Dx.Doi.Org/10.1177/0972150913496864*, *14*(3), 453–470. https://doi.org/10.1177/0972150913496864
34. Nekmahmud, M., Naz, F., Ramkissoon, H., & Fekete-Farkas, M. (2022). Transforming consumers' intention to purchase green products: Role of social media. *Technological Forecasting and Social Change*, *185*, 122067. https://doi.org/10.1016/J.TECHFORE.2022.122067
35. Nguyen, H. V., Nguyen, C. H., & Hoang, T. T. B. (2019). Green consumption: Closing the intention-behavior gap. *Sustainable Development*, *27*(1), 118–129. https://doi.org/10.1002/SD.1875
36. Nittala, R. (2014). Green Consumer Behavior of the Educated Segment in India. *Journal of International Consumer Marketing*, *26*(2), 138–152. https://doi.org/10.1080/08961530.2014.878205
37. Ogiemwonyi, O., Alam, M. N., Alshareef, R., Alsolamy, M., Azizan, N. A., & Mat, N. (2023). Environmental factors affecting green purchase behaviors of the consumers: Mediating role of environmental attitude. *Cleaner Environmental Systems*, *10*, 100130. https://doi.org/10.1016/J.CESYS.2023.100130
38. Oliver, J. D., & Lee, S. H. (2010). Hybrid car purchase intentions: A cross-cultural analysis. *Journal of Consumer Marketing*, *27*(2), 96–103. https://doi.org/10.1108/07363761011027204/FULL/XML

39. Phau, I., & Ong, D. (2007). An investigation of the effects of environmental claims in promotional messages for clothing brands. *Marketing Intelligence and Planning*, *25*(7), 772–788. https://doi.org/10.1108/02634500710834214/FULL/XML
40. Rahman, I., & Reynolds, D. (2019). The influence of values and attitudes on green consumer behavior: A conceptual model of green hotel patronage. *International Journal of Hospitality & Tourism Administration*, *20*(1), 47–74. https://doi.org/10.1080/15256480.2017.1359729
41. Sivapalan, A., Heidt, T. von der, Scherrer, P., & Sorwar, G. (2021). A consumer values-based approach to enhancing green consumption. *Sustainable Production and Consumption*, *28*, 699–715. https://doi.org/10.1016/J.SPC.2021.06.013
42. Sun, Y., Li, T., & Wang, S. (2022). "I buy green products for my benefits or yours": understanding consumers' intention to purchase green products. *Asia Pacific Journal of Marketing and Logistics*, *34*(8), 1721–1739. https://doi.org/10.1108/APJML-04-2021-0244/FULL/XML
43. White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT Consumer Behaviors to be More Sustainable: A Literature Review and Guiding Framework. *Https://Doi.Org/10.1177/0022242919825649*, *83*(3), 22–49. https://doi.org/10.1177/0022242919825649
44. Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production*, *135*, 732–739. https://doi.org/10.1016/J.JCLEPRO.2016.06.120