

Mapping the Intellectual Structure of Greenwashing and Purchase Intention
Research: A Bibliometric Analysis of Scopus-Indexed Literature

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HISTORY

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ABSTRACT

Purpose: This study aims to systematically map the development of literature on greenwashing and purchase intention by identifying publication trends, key contributors, geographic distribution, and the evolution of research themes.

Method: Data were retrieved from the Scopus database, consisting of 83 English-language journal articles published between 2014 and 2026. The dataset was analyzed using bibliometric techniques with VOSviewer to examine publication patterns, influential contributors, geographic distribution, and thematic developments.

Result: The findings show that publications on greenwashing and purchase intention increased substantially after 2020 and reached their peak in 2025. Research in this area is mainly concentrated in the Social Sciences and Business disciplines, with *Sustainability (Switzerland)* identified as the leading publication source. India and China emerged as the most productive countries, indicating the growing contribution of developing economies to this research field. The thematic analysis highlights green trust, green skepticism, consumer attitudes, and perceived risk as dominant themes in the literature.

Practical Implications for Economic Growth and Development: The findings provide insights for companies to improve transparency in sustainability communication, for consumers to make more informed purchasing decisions, and for regulators to strengthen oversight of environmental claims. These efforts may enhance market transparency, promote sustainable consumption, and support long-term economic development.

Originality/Value: This study offers a dedicated bibliometric mapping of greenwashing and purchase intention literature, providing a structured overview of its intellectual structure, thematic evolution, and future research directions.

Keywords: *Greenwashing, Purchase Intention, Bibliometric Analysis, Consumer Behavior, Sustainability*

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INTRODUCTION

The issue of environmental sustainability has become an increasingly important concern for the global community. In recent years, significant changes in the Earth's climate have contributed to rising global temperatures and posed serious threats to the sustainability of life (Thao et al., 2025). Climate change has far-reaching implications for ecological, social, and economic systems. In parallel, scholarly attention to the role of environmental issues in sustainable business practices has continued to expand. According to Shi and Omar (2024), sustainable business practices have gained increasing prominence amid rising global temperatures and environmental degradation, as reflected in the growth of green marketing. This development indicates a shift in consumer preferences, encouraging companies to integrate sustainability principles into their marketing strategies (Wodnicka & Tartaraj, 2025). To strengthen environmentally friendly brand images and establish points of differentiation, firms have increasingly adopted sustainability principles in their operations and communications (Sinha & Annamdevula, 2025). However, some companies engage in greenwashing by attempting to build a green reputation through inaccurate, exaggerated, or manipulative environmental claims. Such practices may generate consumer skepticism, leading consumers to question the truthfulness and credibility of corporate sustainability claims when these claims are perceived as unreliable (Zaid et al., 2025).

Greenwashing refers to the practice through which businesses attempt to create an environmentally responsible image without genuinely implementing sustainability principles. One common strategy involves concealing negative information while selectively promoting positive environmental claims (Pendse et al., 2023). The characteristics of greenwashing include ambiguous or unreliable claims, false labels, and the selective dissemination of information intended to obscure the negative consequences of business operations (Khandai et al., 2025; Lu et al., 2022). More recently, the concept of greenwashing has expanded beyond environmental issues to include broader frameworks such as Environmental, Social, and Governance (ESG) factors, circular economy practices, and other sustainability-related domains (Ramalho et al., 2024). This conceptual expansion presents challenges for companies in consistently, transparently, and credibly reporting and communicating sustainability information. Therefore, transparency in sustainability practices plays a crucial role in shaping consumer perceptions of corporate environmental claims.

The stability of the sustainability market, particularly in relation to green purchase intention, is increasingly challenged by public perceptions of greenwashing practices (Isac et al., 2025). Shi and Omar (2024) argue that such perceptions may reduce consumers' intention to purchase green products. Similarly, deeply embedded perceptions of manipulation and inaccurate information may discourage consumers from purchasing environmentally friendly products (Di Pillo et al., 2025). In other words, green marketing strategies may become less effective when consumers already hold negative perceptions of sustainability claims. Accordingly, transparency, honesty, and credibility in marketing communication are essential for maintaining consumer trust in green brands.

Research on greenwashing and purchase intention has attracted growing academic attention due to increasing public pressure for environmental accountability and sustainable business strategies (Persakis et al., 2025). This attention reflects broader concerns that misleading environmental claims can damage corporate credibility and influence consumer trust, perceptions, and purchase intention toward green products. Existing bibliometric studies have examined greenwashing in relation to sustainability reporting (Sundarasan et al., 2024), ESG reporting (Bhullar et al., 2025), corporate social responsibility (Wodnicka & Tartaraj, 2025), and marketing contexts (Persakis et al., 2025). In addition, consumer-related themes have been identified as a major stream within the greenwashing literature (Gallo Aguila et al., 2024; Gupta & Singh, 2025; Pendse et al., 2023). Building on this stream, Santos et al. (2024) emphasized the effects of greenwashing on consumer attitudes and purchase intention as an important direction for future research. Persakis et al. (2025) further demonstrated that research on greenwashing in marketing has increasingly focused on consumer responses, including trust, skepticism, and behavioral outcomes. Similarly, Jeethu Suvama et al. (2026)

examined greenwashing and consumer behavioral outcomes using the TCCM framework, incorporating constructs such as trust, skepticism, loyalty, advocacy, and purchase intention.

Although bibliometric studies have addressed purchase intention within broader discussions of consumer responses, stakeholder impacts, and marketing outcomes, purchase intention has rarely been treated as a distinct analytical focus in greenwashing research (Persakis et al., 2025; Santos et al., 2024). Consequently, the intellectual structure, thematic evolution, influential contributors, and emerging trends in the literature on greenwashing and purchase intention remain insufficiently mapped. To the authors' knowledge, bibliometric studies that specifically examine the relationship between greenwashing and purchase intention are still limited. To address this gap, the present study provides a dedicated bibliometric mapping of the greenwashing and purchase intention literature as a distinct research domain. This study complements existing bibliometric research by offering a more focused understanding of the development of this field and by identifying potential directions for future investigation.

Although research on greenwashing and purchase intention continues to develop, comprehensive literature reviews focusing specifically on this relationship remain limited. Therefore, a bibliometric analysis is necessary to identify publication patterns, dominant themes, intellectual linkages, and future research opportunities. Based on these considerations, this study addresses the following research questions: 1) What are the principal bibliometric patterns and research performance indicators in the field of greenwashing and purchase intention, particularly in terms of publication trends, key contributors, institutions, countries, journals, funding sources, and collaboration networks?, and 2) What emerging themes and future research directions can be identified through keyword co-occurrence, overlay visualization, and density visualization analyses in the greenwashing and purchase intention literature?.

This study contributes to the greenwashing literature by providing a bibliometric mapping of the association between greenwashing and purchase intention. It enhances understanding of how this body of literature has evolved and highlights key themes, influential contributors, and emerging research directions related to consumer responses to greenwashing. The findings offer useful insights for marketing practitioners, policymakers, and academics concerned with addressing greenwashing practices amid growing global awareness of environmental issues (Persakis et al., 2025). From a practical perspective, the results may support more transparent and credible sustainability communication, strengthen oversight of environmental claims, and guide future research on consumer behavior in green marketing contexts. Overall, this study maps how the literature conceptualizes and discusses mechanisms such as trust, skepticism, attitudes, and risk perception in explaining the relationship between greenwashing and purchase intention.

METHOD

The primary methodological approach employed in this study was bibliometric analysis. Bibliometric analysis is a quantitative method used to examine large volumes of scientific data and systematically assess research impact (Passas, 2024). It generally consists of two main components: performance analysis and science mapping. Performance analysis measures research productivity by examining indicators such as publication output and citation impact, whereas science mapping visualizes the intellectual and conceptual structure of a research field to reveal its current state and evolution over time (Lim et al., 2024). By integrating these two components, this study provides a comprehensive review of research developments concerning greenwashing and purchase intention.

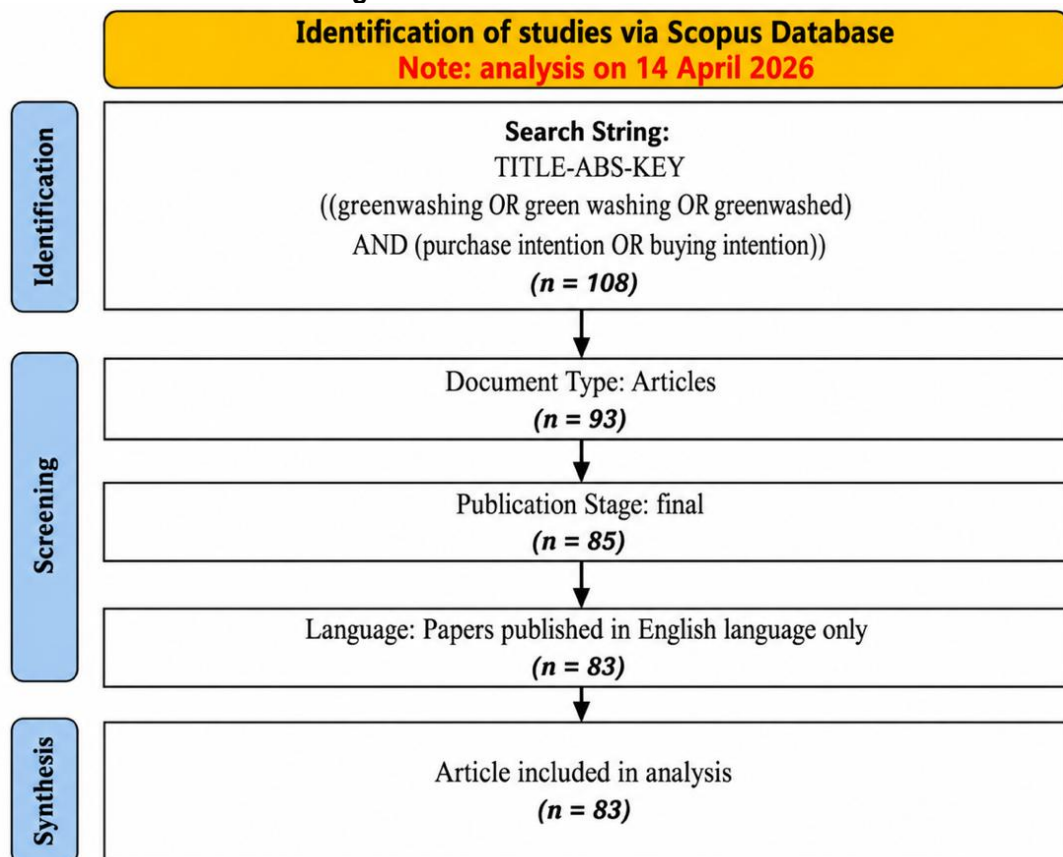
This study used the Scopus database as the primary data source because of its broad international coverage and capacity to capture research trends, cross-disciplinary connections, and the evolution of emerging theoretical frameworks within a field (Shaheen, 2025). The search was conducted in the TITLE-ABS-KEY field, which covers article titles, abstracts, and author keywords. The search was limited to final-stage, English-language journal articles. No subject-area restrictions were applied, allowing the retrieval of relevant

studies from multiple disciplines. The search covered all years available in the Scopus database up to the retrieval date. The retrieved documents were subsequently screened using predetermined inclusion and exclusion criteria to ensure their relevance to the research objective. Data retrieval was conducted on 14 April 2026 using the following search query:

TITLE-ABS-KEY (("greenwashing" OR "green washing" OR "greenwashed") AND ("purchase intention" OR "buying intention")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English"))

This study applied the PRISMA framework, namely the Preferred Reporting Items for Systematic Reviews and Meta-Analyses, to identify and select relevant literature based on predefined criteria (Bhullar et al., 2025). The selection process consisted of three stages: identification, screening, and eligibility assessment, as presented in Figure 1. The initial search in the Scopus database yielded 108 records. During the screening process, 15 records were excluded because they were not classified as journal articles, 8 records were removed because they were not in the final publication stage, and 2 non-English articles were excluded. After applying these criteria, 83 articles were retained as the final dataset for bibliometric analysis. No duplicate records were identified during the screening process. The inclusion criteria consisted of peer-reviewed journal articles published in English and available in the final publication stage.

Figure 1. Data Collection Process



Source: Authors' elaboration using data from the Scopus database (2026)

Bibliometric mapping was conducted using VOSviewer version 1.6.20. As noted by Persakis et al. (2025), VOSviewer has been widely employed in recent bibliometric studies on greenwashing, making it an appropriate tool for the present analysis. The analysis focused

on country co-authorship and keyword co-occurrence networks in order to examine collaboration patterns and thematic structures within the literature. A full-counting method was applied across all analyses. For the country co-authorship analysis, the minimum threshold was set at three documents per country, whereas the keyword co-occurrence analysis applied a minimum occurrence threshold of three keywords. Network visualization was generated using the association strength normalization method. No thesaurus file was used during data processing. Clustering was performed using the default VOSviewer parameters, with a resolution value of 1.00 and a minimum cluster size of 1. These analytical settings enabled the identification of collaboration networks and thematic clusters within the dataset.

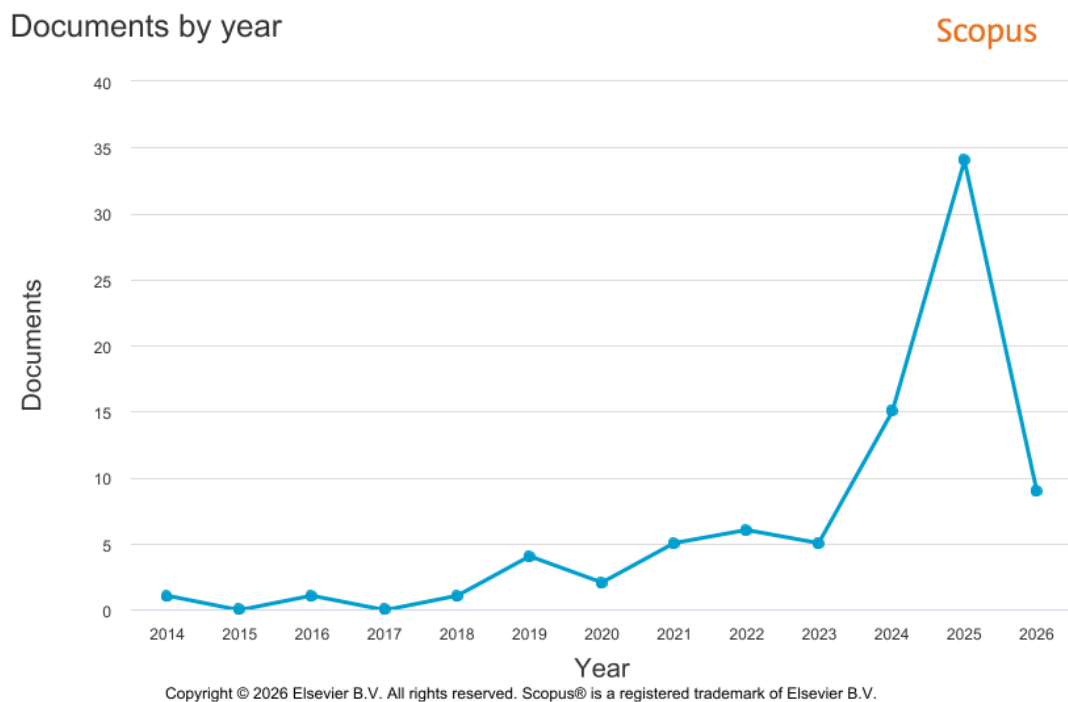
RESULT AND DISCUSSION

Performance Analysis

This study examined scientific publications on greenwashing and purchase intention indexed in the Scopus database. The search strategy used the keywords (“greenwashing” OR “green washing” OR “greenwashed”) AND (“purchase intention” OR “buying intention”) to capture terminological variations commonly used in prior research. The initial search yielded 108 records, which were subsequently screened based on the predefined inclusion and exclusion criteria. Following the screening process, 83 articles were retained for further bibliometric analysis.

The screened articles were classified using several bibliometric indicators, including publication trends, subject areas, publication sources, author contributions, institutional affiliations, country distribution, and funding sponsorship. This classification was intended to identify the main patterns, dynamics, and development of scientific research on greenwashing and purchase intention. To maintain a focused and interpretable analysis, the results were limited to the ten most productive entities in each category.

Figure 2. Publications Trend



Source: Processed data (2026)

The annual publication trend presented in Figure 2 indicates that research on greenwashing and purchase intention began in 2014 and has generally increased over time. Overall, the publication pattern demonstrates a clear upward trajectory. Research output remained relatively low between 2014 and 2018, increased gradually from 2019 to 2022, and showed more substantial growth from 2023 to 2025. Although a slight decline was observed in 2023, the number of publications increased sharply in 2024 and reached its peak in 2025. This trend is consistent with Rehman et al. (2025), who noted that scholarly interest in greenwashing has grown alongside the expansion of green marketing practices. The number of publications recorded in 2026 was lower because the data were retrieved on 14 April 2026 and therefore represent only a partial publication year. Accordingly, 2025 represents the highest annual publication output among the complete years covered in the dataset.

Table 1. Publications by Subject Area

Rank	Subject Area	Number of Article
1	Social Sciences	43
2	Business, Management, and Accounting	41
3	Environmental Science	27
4	Energy	18
5	Economics, Econometrics and Finance	15
6	Arts and Humanities	10
7	Computer Science	9
8	Engineering	9
9	Psychology	5
10	Agricultural and Biological Sciences	3

Source: Processed data (2026)

The data presented in Table 1 show that the distribution of documents across subject areas provides an overview of the dominant disciplinary orientations in this research field. It should be noted that Scopus subject areas are not mutually exclusive; thus, a single article may be indexed under more than one subject category. As a result, the total frequency across subject areas exceeds the number of unique articles in the final dataset of 83 articles. The findings indicate that publications are mainly concentrated in Social Sciences, with 43 articles, and Business, Management, and Accounting, with 41 articles. Contributions from Environmental Science, with 27 articles, Energy, with 18 articles, and Economics, Econometrics, and Finance, with 15 articles, further highlight the close relationship between greenwashing research, sustainability concerns, and economic outcomes. Although the contributions from Arts and Humanities, with 10 articles, Computer Science and Engineering, with 9 articles each, Psychology, with 5 articles, and Agricultural and Biological Sciences, with 3 articles, were comparatively smaller, they nevertheless reinforce the interdisciplinary nature of the field. Overall, these findings suggest that research on greenwashing and purchase intention has evolved into a multidisciplinary domain that incorporates diverse academic perspectives (Forliano et al., 2025).

Table 2. Publications by Sources

Rank	Journal	Number of Article
1	Sustainability (Switzerland)	8
2	Business Strategy and the Environment	6
3	Journal of Business Ethics	4
4	Journal of Cleaner Production	3
5	Journal of Retailing and Consumer Services	3
6	Acta Psychologica	2
7	Environment Development and Sustainability	2
8	Journal of Global Fashion Marketing	2

Rank	Journal	Number of Article
9	Marketing Intelligence and Planning	2
10	RAUSP Management Journal	2

Source: Processed data (2026)

Based on Table 2, the distribution of articles by publication source indicates that research on greenwashing and purchase intention remains dispersed across a wide range of journals. This pattern suggests that scholarly attention to the topic is distributed across various publication outlets, each contributing at different levels. Sustainability (Switzerland) ranked first with 8 publications, followed by Business Strategy and the Environment with 6 publications and the Journal of Business Ethics with 4 publications. In addition, the Journal of Cleaner Production and the Journal of Retailing and Consumer Services each published 3 articles. Meanwhile, Acta Psychologica, Environment, Development and Sustainability, Journal of Global Fashion Marketing, Marketing Intelligence and Planning, and RAUSP Management Journal each contributed 2 articles. These findings reinforce the multifaceted nature of research on greenwashing and purchase intention, as the topic intersects with sustainability, business ethics, consumer behavior, marketing, and environmental management (Netto et al., 2020).

Table 3. Publications by Authors

Rank	Authors Name	Number of Article
1	Balaskas, S.	2
2	Khandai, S.	2
3	Kohli, H.S.	2
4	Nguyen-Viet, B.	2
5	Acaf, Y.	1
6	Adil, M.	1
7	Ahluwalia, I.S.	1
8	Ahmad, W.	1
9	Ahmed, S.	1
10	Ahsan, M.N.	1

Source: Processed data (2026)

Table 3 indicates that publications on greenwashing and purchase intention are widely distributed among researchers, with no single author demonstrating clear dominance in the field. In terms of publication output, Balaskas, S., Khandai, S., Kohli, H. S., and Nguyen-Viet, B. were the most productive authors, each contributing 2 articles. Other authors, including Acaf, Y., Adil, M., Ahluwalia, I. S., Ahmad, W., Ahmed, S., and Ahsan, M. N., each contributed 1 publication. This distribution suggests that author productivity in this field remains relatively fragmented, with contributions spread across multiple scholars rather than concentrated within a particular author or research group. Such a pattern may reflect the emerging and interdisciplinary nature of research on greenwashing and purchase intention. The growing scholarly interest in this topic can also be associated with the increasing prevalence of greenwashing practices and their implications for consumer behavior (Zioło et al., 2024).

Table 4. Publications by Affiliations

Rank	Affiliation	Number of Article
1	Universiti Kebangsaan Malaysia (Malaysia)	3
2	Multimedia University (Malaysia)	3
3	Konkuk University (South Korea)	2
4	Universidade Estadual Paulista Júlio de Mesquita Filho (Brazil)	2

Rank	Affiliation	Number of Article
5	Universidade de São Paulo (Brazil)	2
6	Shanghai Jiao Tong University (China)	2
7	Universitat Ramon Llull (Spain)	2
8	University of Patras (Greece)	2
9	Hellenic Open University (Greece)	2
10	Amity University (India)	2

Source: Processed data (2026)

Table 4 shows that Universiti Kebangsaan Malaysia and Multimedia University were the leading institutional contributors, each producing 3 publications. Other contributing institutions included Konkuk University, Universidade Estadual Paulista Júlio de Mesquita Filho, Universidade de São Paulo, Shanghai Jiao Tong University, Universitat Ramon Llull, University of Patras, Hellenic Open University, and Amity University, each with 2 publications. Overall, the distribution of publications appears relatively balanced, indicating that research on greenwashing and purchase intention is not concentrated within a single institution or national academic cluster. Instead, the involvement of institutions from different countries suggests that this research area has developed as a multidimensional and internationally dispersed field.

Table 5. Publications by Countries

Rank	Country	Number of Article
1	India	13
2	China	12
3	Malaysia	8
4	United States	6
5	Australia	5
6	Germany	5
7	Italy	5
8	Turkey	5
9	Vietnam	5
10	Brazil	4

Source: Processed data (2026)

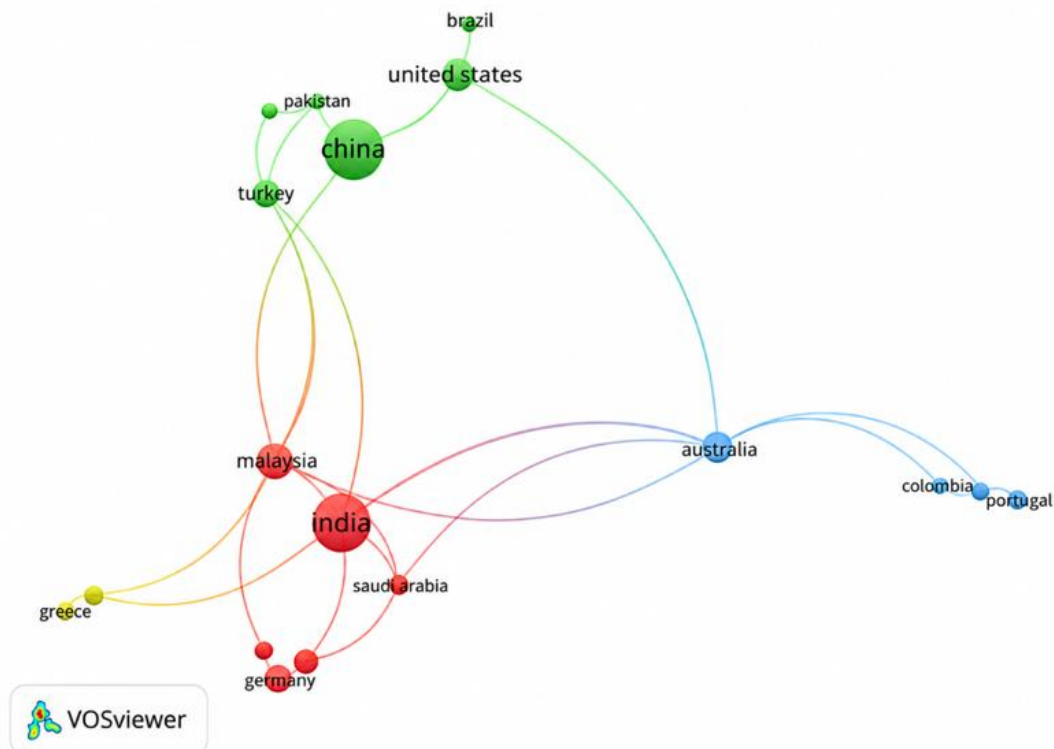
Based on the country distribution data presented in Table 5, India recorded the highest number of publications on greenwashing and purchase intention, with 13 articles. It should be noted that country contributions were calculated using the full-counting approach based on author affiliations. Accordingly, a single publication could be attributed to multiple countries when it involved international collaboration. China ranked second with 12 articles, followed by Malaysia with 8 articles and the United States with 6 articles. Australia, Germany, Italy, Turkey, and Vietnam each contributed 5 articles, while Brazil contributed 4 articles. This distribution pattern suggests that research on greenwashing and purchase intention has expanded across both developed and developing economies. However, the results also indicate a relatively strong concentration of research activity in Asian countries. As the world's most populous region, Asia provides an important context for examining green purchasing behavior and consumer responses to greenwashing practices (Prasetya et al., 2025).

The interrelationships among countries in research on greenwashing and purchase intention can be further examined through the VOSviewer network visualization. The visualization indicates that India and China serve as the main centers of research activity in this field. The first cluster, shown in red, reflects research associations among India, Malaysia, Saudi Arabia, and Germany. The second cluster, shown in green, represents collaborative links among China, the United States, Turkey, Pakistan, and Brazil. The third cluster, shown in blue,

consists of Australia, Colombia, and Portugal, while the fourth cluster, shown in yellow, is represented by Greece. However, the third and fourth clusters appear to be more peripheral because of their relatively limited collaborative links with other countries in the network.

The VOSviewer results confirm the prominent position of Asian countries as major contributors to research on greenwashing and purchase intention. At the same time, the involvement of Western countries indicates growing scholarly interest in this topic beyond Asia. This finding is consistent with Sharma et al. (2023), who reported that research on green purchase behavior has been more extensively developed in both Western and Asian contexts.

Figure 3. Network Country Visualization



Source: Processed data (2026)

Based on the data presented in Table 6, the National Natural Science Foundation of China was the most frequently acknowledged funding sponsor, supporting 4 articles. The Fundamental Research Funds for the Central Universities and the Fundação para a Ciência e a Tecnologia each supported 2 articles. These findings suggest that funding support for research on greenwashing and purchase intention has been provided by institutions from several countries, particularly China and Portugal. Additional funding contributions were identified from organizations such as Aarhus University, the Beijing Municipal Commission of Education, the China Postdoctoral Science Foundation, and several institutions in Spain, Brazil, and the European Union, each associated with 1 article.

Although Chinese funding organizations appeared most frequently in the dataset, the overall distribution of funding sponsors reflects the international character of research support in this field. Nevertheless, these findings should be interpreted with caution because funding sponsor data in Scopus may be incomplete or inconsistently indexed across publications. Consequently, the reported frequencies may not fully represent the actual distribution of research funding in this research area.

Table 6. Publications by Funding Sponsors

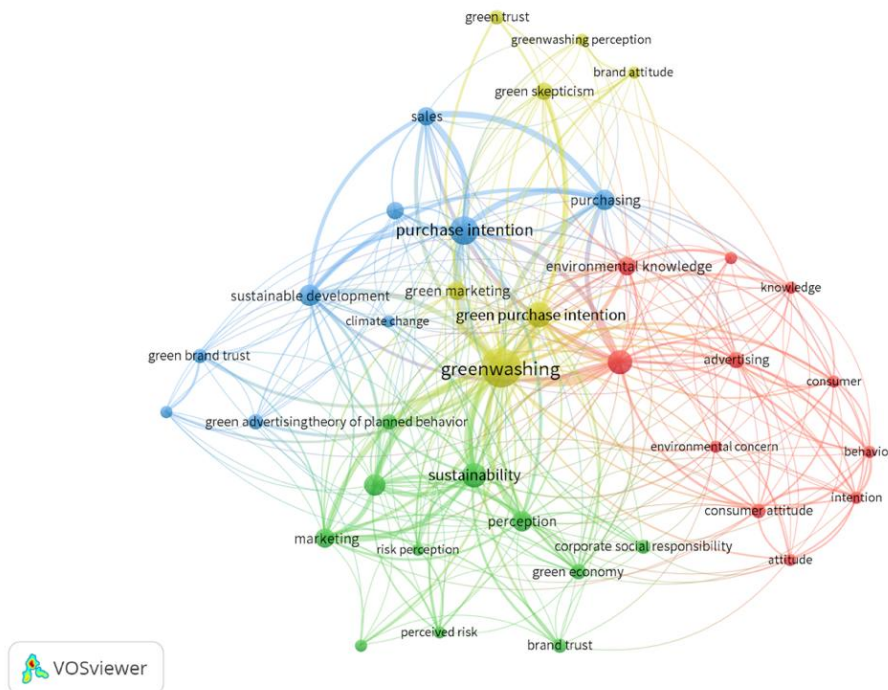
Rank	Funding Sponsor	Number of Article
1	National Natural Science Foundation of China	4
2	Fundamental Research Funds for the Central Universities	2
3	Fundação para a Ciência e a Tecnologia	2
4	Aarhus Universitet	1
5	Beijing Municipal Commission of Education	1
6	China Postdoctoral Science Foundation	1
7	Conselleria de Innovación, Universidades, Ciencia y Sociedad Digital, Generalitat Valenciana	1
8	Coordenação de Aperfeiçoamento de Pessoal de Nível Superior	1
9	European Regional Development Fund	1
10	Eusko Jaurlaritza	1

Source: Processed data (2026)

Science Mapping

The keyword co-occurrence visualization illustrates the relationships among keywords in the literature on greenwashing and purchase intention. The proximity of nodes indicates that topics such as environmental awareness, green skepticism, and green trust are frequently discussed in relation to these two concepts in the existing literature. By highlighting thematic groupings, the visualization reveals several key clusters related to perceived risk, consumer attitudes, and green consumer behavior in the context of greenwashing practices. These associations represent the main themes explored by researchers and should not be interpreted as causal or mediating relationships among variables.

Figure 4. Co-occurrence Network and Visualization of Keywords



Source: Processed data (2026)

The keyword co-occurrence analysis generated four thematic clusters based on the frequency and strength of relationships among keywords in the dataset. These clusters were automatically identified by VOSviewer, while the cluster labels were assigned by the authors through interpretation of the dominant keywords and thematic focus within each cluster. Overall, the resulting clusters provide an overview of the major research themes discussed in the literature on greenwashing and purchase intention.

Cluster 1: Consumer Behavioral and Psychological Responses

This cluster focuses on internal psychological and cognitive factors associated with purchase intention. Keywords such as environmental awareness and environmental knowledge indicate that these themes are frequently discussed in relation to sustainable consumption behavior. Previous studies have shown that environmental awareness may influence purchase intention through factors such as environmental attitudes and environmental concern (Zhuang et al., 2021). In addition, the presence of advertising-related keywords suggests that prior research has often examined the relationships among green marketing communication, environmental concern, and purchase intention within the context of greenwashing.

Cluster 2: Corporate Strategy and Ethical Accountability

This cluster focuses on the relationship between greenwashing and corporate strategy. It includes keywords related to marketing, sustainability, corporate social responsibility, the green economy, and perceived risk, all of which are associated with purchase intention. These findings suggest that sustainability-oriented marketing strategies and corporate social responsibility initiatives may shape consumers' perceptions of risk. In the context of greenwashing, perceived risk is particularly important because consumers may become hesitant to purchase green products when they suspect that environmental claims are misleading or exaggerated. Previous research has shown that an increased perceived risk of greenwashing can reduce green purchase intention (Lu et al., 2022). Therefore, this cluster highlights the importance of ethical accountability, credible sustainability communication, and responsible corporate strategy in influencing consumer responses to green products.

Cluster 3: Purchase Intention and Sustainable Sales

This cluster focuses on how marketing activities can encourage purchase intention. Keywords such as green brand image, green brand trust, and green advertising are frequently discussed in relation to mitigating the negative effects of greenwashing and strengthening consumers' intention to purchase green products. This cluster also includes climate change, which indicates that green advertising is often positioned not only as a promotional strategy but also as an educational tool for increasing environmental awareness and shaping consumer preferences for sustainable products (Reddy et al., 2023). The thematic relationships identified in this cluster suggest potential research avenues linking green advertising, purchase intention, purchase behavior, and broader sustainability outcomes. Future studies could examine how purchase intention translates into actual purchase behavior and whether such behavior contributes to long-term sustainable consumption.

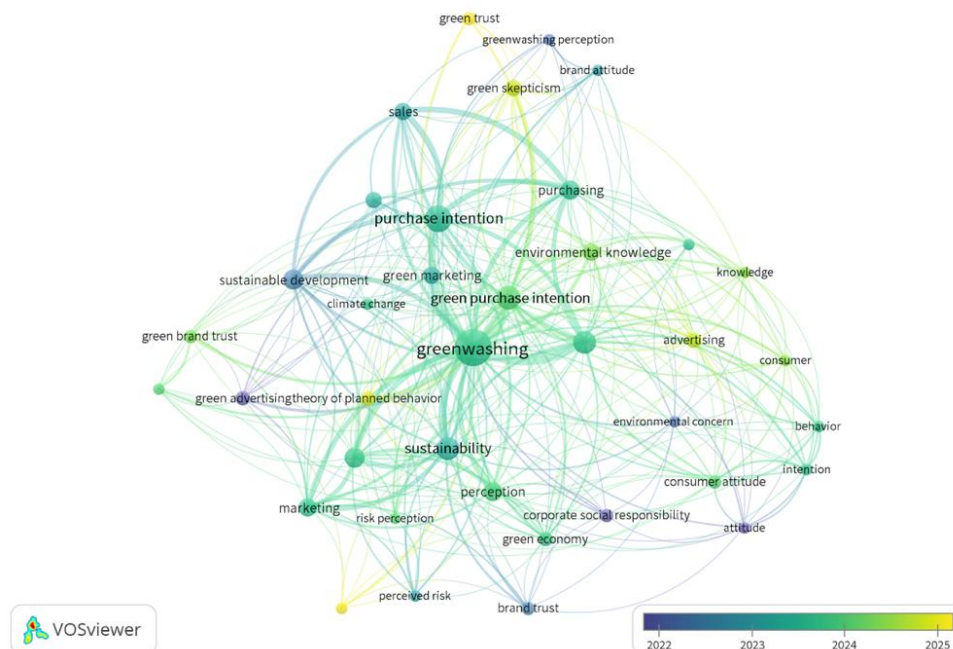
Cluster 4: Greenwashing and Consumer Trust

This cluster examines psychological factors that may mitigate the negative effects of greenwashing on consumers' purchase intention. Keywords such as green trust and green skepticism illustrate the challenges consumers face when assessing the credibility of a brand's sustainability claims. Although consumer preference for sustainable products has increased, such preference does not automatically lead to purchase intention when sustainability claims are perceived as uncertain, irresponsible, or misleading. Consumers who remain skeptical of corporate environmental claims are less likely to purchase green products, particularly when they perceive a lack of transparency in sustainability communication (de Sio et al., 2022). Therefore, consumer trust is a key factor in the effectiveness of green marketing. Authenticity and transparency in sustainability claims are essential for encouraging consumer loyalty and sustainable purchasing behavior.

The VOSviewer overlay visualization presented in Figure 5 illustrates the temporal distribution of keywords in the literature on greenwashing and purchase intention. The visualization is based on the average publication year (APY) calculated by VOSviewer for each keyword. Accordingly, the color gradient does not represent the full publication period of the dataset, which spans 2014 to 2026, but rather the average year in which the visualized keywords appeared in the analyzed publications. As shown in Figure 5, the displayed APY values range from 2022 to 2025, indicating that the keywords meeting the minimum occurrence threshold were predominantly associated with recent publications.

The color gradient reflects the relative recency of research attention, with blue tones indicating earlier average publication years and yellow tones indicating more recent research interests. The visualization shows that greenwashing occupies a central position within the keyword network and is closely associated with themes such as sustainability, environmental knowledge, green purchase intention, and buying intention. These associations highlight the prominent role of greenwashing in contemporary literature on environmentally oriented consumer behavior and sustainable marketing.

Figure 5. Temporal Evolution of Research Themes



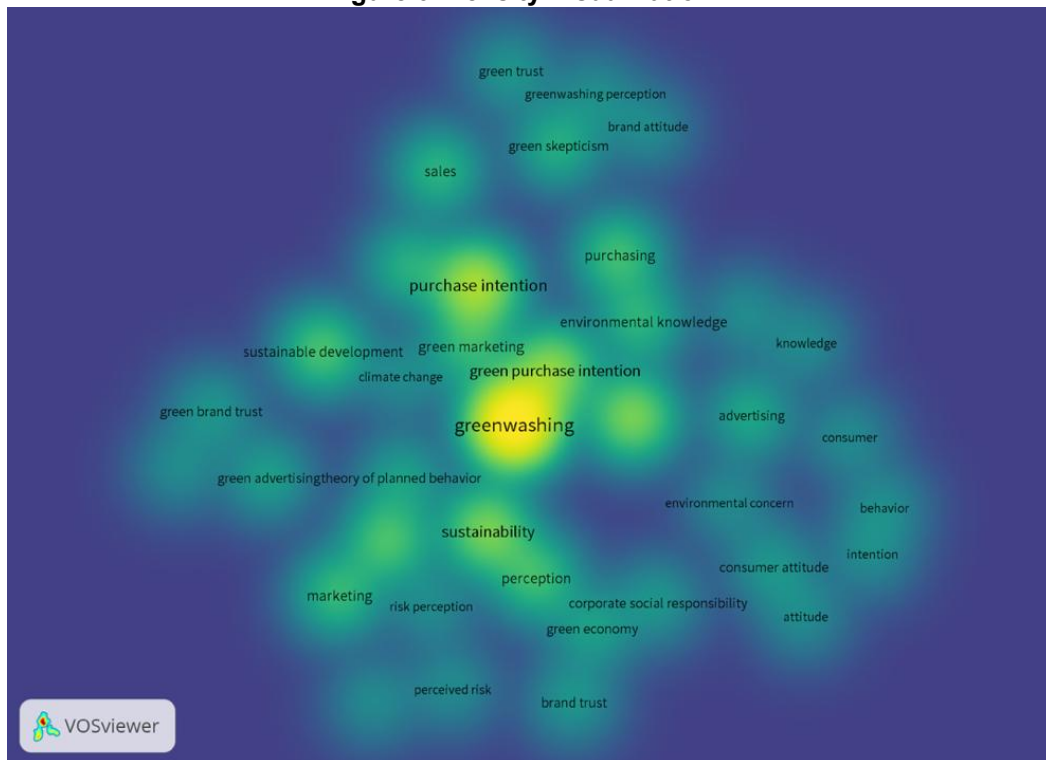
Source: Processed data (2026)

Recent research trends are reflected in the emergence of keywords such as green skepticism, green trust, advertising, and the theory of planned behavior. These keywords indicate the growing prominence of consumer psychology and behavioral responses within the literature on greenwashing and purchase intention. At the same time, foundational themes such as sustainable development, corporate social responsibility, brand trust, and attitude continue to serve as important conceptual underpinnings of this research area. Overall, the increasing complexity of consumer responses to greenwashing and sustainability issues has encouraged the development of a more integrative research approach.

The density visualization illustrates the concentration of research themes related to greenwashing and purchase intention, with brighter areas representing keywords that appear more frequently in the literature. As shown in Figure 6, greenwashing and purchase intention

have the highest node density, indicating their central position in the research field. This suggests that these topics have received substantial scholarly attention in studies examining environmentally oriented consumer behavior and the effects of greenwashing on purchase intention. Keywords such as green marketing, perception, corporate social responsibility, and advertising appear in areas of medium density, indicating that they are frequently discussed but receive comparatively less attention than the core themes. In contrast, keywords such as perceived risk, green skepticism, green trust, and brand trust appear in lower-density areas of the map. These themes have received relatively less emphasis in the existing literature and may therefore represent promising avenues for future research, particularly in relation to consumer psychology, trust formation, risk perception, and sustainable consumption behavior.

Figure 6. Density Visualization



Source: Processed data (2026)

Discussion

The findings indicate that research on greenwashing and purchase intention has developed considerably in recent years. Publications on greenwashing have existed since 1996 and experienced substantial growth after 2006 (Pendse et al., 2023), while Persakis et al. (2025) reported a marked increase in greenwashing research within the marketing literature since 2020. Consistent with these studies, the present findings confirm the growing academic attention devoted to greenwashing. However, unlike previous bibliometric studies that examined greenwashing more broadly, this study shows that publications specifically linking greenwashing and purchase intention began to emerge in 2014 and reached their highest level in 2025. This trend suggests increasing scholarly interest in the implications of greenwashing for consumer behavior, as well as its broader corporate and marketing dimensions.

Research on greenwashing and purchase intention is dominated by the fields of Social Sciences, Business, Management and Accounting, and Environmental Science. This finding

is consistent with Ziolo et al. (2024), who describe greenwashing as an interdisciplinary phenomenon studied from multiple perspectives and reflected in diverse interpretations and approaches. The presence of publications in Environmental Science also indicates that greenwashing is no longer viewed solely as a marketing communication issue, but as a phenomenon closely intertwined with environmental sustainability. Greenwashing can therefore be understood as a complex, dynamic, interdisciplinary, and multidimensional issue that encompasses various areas of discussion (Bernini et al., 2024). Accordingly, a multidisciplinary approach is increasingly relevant for understanding how consumer perceptions of environmental claims influence purchase intention and trust in green products.

The largest contributions to publications on greenwashing and purchase intention come from India, China, and Malaysia. The findings also indicate that Universiti Kebangsaan Malaysia is the most productive institutional affiliation, while the National Natural Science Foundation of China is the most frequently acknowledged funding agency. Similarly, Sundarassen et al. (2024) highlight the growing role of developing countries in advancing greenwashing research. However, these findings differ from earlier bibliometric studies by Pendse et al. (2023) and Ziolo et al. (2024), which identified the United States and the United Kingdom as dominant contributors to the broader greenwashing literature. This difference suggests a growing contribution from developing economies characterized by rapid industrialization, expanding consumer markets, and increasing sustainability awareness. This trend may reflect the rising relevance of sustainability-related consumer behavior in emerging markets, where environmental awareness and green consumption continue to expand.

The co-occurrence analysis reveals that greenwashing is a central research theme connected to concepts such as perceived risk, consumer attitudes, green skepticism, and green trust. This finding extends prior review studies that conceptualized greenwashing as a multidimensional phenomenon involving misleading environmental communication and broader consumer-related concerns (Bernini et al., 2024; Ziolo et al., 2024). Unlike those studies, the present analysis highlights how consumer-related constructs are interconnected within the specific literature on greenwashing and purchase intention. This indicates a shift in research attention from corporate sustainability practices alone toward consumer psychology and behavioral responses. These findings further emphasize the importance of consumer-oriented concepts, including green trust, green purchase intention, and customer behavior, within the broader greenwashing literature (Ziolo et al., 2024).

Rehman et al. (2025) argued that greenwashing can create uncertainty in consumer purchasing decisions by increasing perceived risk and fostering green skepticism. Previous studies have also reported that green skepticism is associated with lower purchase intention (Adil et al., 2024; Zaid et al., 2025). Thus, indications of greenwashing may undermine not only the credibility of specific product claims but also the overall credibility of the company. This problem may become more severe when sustainability strategies are not supported by credible and verifiable evidence. As a result, declining consumer trust may intensify skepticism regarding a company's ability to fulfill its environmental commitments. Under such conditions, consumers' intention to purchase products suspected of greenwashing may decrease. Overall, these findings highlight the significance of purchase intention, consumer beliefs, and behavioral responses in contemporary greenwashing research, thereby extending previous reviews that examined greenwashing mainly from broader sustainability and organizational perspectives (Bernini et al., 2024; Ziolo et al., 2024).

CONCLUSION

This study mapped the development of research on greenwashing and purchase intention through a bibliometric analysis of Scopus-indexed publications. The findings indicate a substantial increase in scholarly interest in this topic, particularly in recent years, reflecting the growing relevance of sustainability issues in consumer behavior and marketing research. The performance analysis shows that research on greenwashing and purchase intention is multidisciplinary, with strong contributions from the Social Sciences and Business,

Management, and Accounting. In addition, the science mapping analysis identifies greenwashing as a central theme connecting consumer behavior, sustainability, and green marketing research. The overlay visualization suggests a shift in thematic emphasis from normative issues, such as corporate social responsibility, toward psychological dimensions, including green skepticism, green trust, and perceived risk. Meanwhile, the density visualization highlights several emerging themes that warrant further investigation, particularly those related to trust, skepticism, and consumer risk perception in sustainability contexts.

The findings have important implications for economic growth and sustainable development. As consumer demand for green products continues to increase, maintaining trust in sustainability claims is essential for the effective functioning of green markets. For businesses, transparent and credible environmental communication can strengthen consumer confidence, support sustainable purchasing behavior, and enhance long-term competitiveness. For policymakers and regulators, stronger oversight of environmental claims, third-party verification mechanisms, and standardized sustainability reporting systems can improve market transparency, reduce information asymmetry, and encourage responsible business practices. Collectively, these efforts can foster sustainable consumption patterns and contribute to the broader development of a green economy.

This study has several limitations. First, it relied solely on the Scopus database, which may have excluded relevant publications indexed in other databases. Second, the search strategy was based on selected keywords related to greenwashing and purchase intention, which may have overlooked studies using alternative terminology. Third, only English-language publications were included, potentially limiting the representation of research published in other languages. Finally, although VOSviewer provides valuable insights into thematic structures and research trends, co-occurrence and network analyses primarily reveal relationships among concepts and should not be interpreted as evidence of causality. Future research could address these limitations by combining multiple databases, expanding keyword coverage, and integrating bibliometric techniques with systematic literature reviews or meta-analyses.

Based on the cluster, overlay, and density visualization analyses, this study proposes a future research agenda to guide further investigation in this area. The proposed themes were identified by considering keywords that emerged in the overlay analysis and topics that appeared less prominently in the density visualization. These themes provide promising directions for advancing understanding of consumer responses to greenwashing and the effectiveness of sustainable marketing practices, particularly because they appear to be relatively new but remain underexplored in bibliometric mapping. Themes such as green trust, green skepticism, perceived risk, sustainability communication, and green advertising were selected because they emerged in recent research trends while remaining comparatively underrepresented in the density visualization.

Future studies may further examine the roles of green trust, green skepticism, perceived risk, sustainability communication, and green advertising in shaping purchase intention. The bibliometric mapping of these themes indicates that they are relatively new and underdeveloped, suggesting promising opportunities for further research. Future research could also explore how consumers evaluate environmental claims across different industries and cultural contexts using survey, experimental, mixed-method, or longitudinal designs. In addition, integrating bibliometric methods with systematic literature reviews or meta-analyses could provide a more comprehensive understanding of the mechanisms through which greenwashing influences consumer attitudes and behavioral intention.

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