



Generation Z and Consumer Awareness in Sustainable Consumption: A Bibliometric Analysis

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ABSTRACT

This study presents a bibliometric analysis of research on Generation Z and consumer awareness in the context of sustainable consumption. Utilizing articles published between 2014 and 2024, a total of 256 relevant publications were analyzed using VOSviewer and Publish or Perish. The findings reveal five key research clusters, with sustainable consumption at the core, closely linked to consumer behavior, green marketing, and the Sustainable Development Goals (SDGs). The analysis highlights Generation Z's growing influence on sustainability, particularly through increased consumer awareness and engagement with sustainable products. Emerging topics such as greenwashing and the circular economy were also identified as areas of rising academic interest. This study provides a comprehensive overview of the current research landscape, offering insights for future studies on how Generation Z can drive sustainable consumption practices and contribute to global sustainability efforts.

Keywords: Sustainable consumption, Consumer awareness, Generation Z, Sustainable Development Goals, Green marketing, Environmental sustainability.

1. INTRODUCTION

The growing environmental crisis, exacerbated by issues such as climate change, resource depletion, and ecosystem degradation, has heightened the global focus on sustainability. A crucial component of this movement is sustainable consumption, which encourages individuals and industries to adopt behaviors and practices that minimize environmental impacts while maintaining economic viability and social equity. Sustainable Development Goal (SDG) 12 has been established to promote responsible consumption and production practices globally that said by United Nations.

Consumers play a pivotal role in this transition to sustainability, particularly through their purchasing decisions and preferences. Among the key drivers of sustainable consumption is consumer awareness—the level of understanding consumers have about their consumption choices' environmental and social implications. As consumers become more informed, they tend to demand products and services that align with their values, including a commitment to sustainability. Studies have shown that this trend has only accelerated in recent years, with consumers increasingly holding businesses accountable for their environmental and social impacts[1].

One demographic that has emerged as particularly influential in this shift is Generation Z, individuals born between the mid-1990s and early 2010s. As digital natives, Generation Z is more informed about global issues and more socially and environmentally conscious than previous generations[2]. This group has been identified as a powerful force in driving market trends toward sustainability, with research showing that Generation Z consumers prioritize environmental responsibility and social justice in their purchasing decisions[3]. Furthermore, Accenture reported that 62% of Generation Z expects companies to take a clear stance on social, environmental, and political issues, further underscoring their demand for corporate accountability in sustainability.

However, the growing demand for sustainable products and services faces significant barriers. One of the major challenges is greenwashing, where companies mislead consumers by falsely advertising their products as environmentally friendly or sustainable. This deceptive practice erodes consumer trust and undermines genuine

sustainability efforts, creating skepticism around corporate environmental claims[4]. Studies have shown that greenwashing can lead to consumer disillusionment, ultimately hindering the progress of the sustainable consumption movement[5]. As a result, there is an urgent need for increased transparency and authenticity in corporate sustainability initiatives to restore consumer confidence and foster genuine engagement with sustainable consumption.

Consumer awareness plays a critical role in shaping sustainable consumption patterns. Informed consumers are likelier to choose ethical products that reflect their environmental and social values. According to a survey by Nielsen [6], 73% of Generation Z respondents stated that they are willing to pay more for sustainable products, further highlighting the importance of consumer education in driving market transformation. This shift in consumer behavior presents both an opportunity and a challenge for businesses. Companies that successfully align their products with consumer values can build stronger brand loyalty, while those that fail to do so risk losing market share, particularly among Generation Z consumers who are quick to hold brands accountable.

Generation Z's influence extends beyond individual purchasing decisions to broader market trends. As the first generation to grow up with constant access to digital information, Generation Z is highly informed about environmental issues and has a global perspective on social justice and sustainability[2]. Their demand for corporate transparency and authentic sustainability drives companies to adopt more sustainable business models, particularly in industries historically criticized for their environmental impacts, such as fashion, technology, and food production.

In particular, the fashion industry has faced increasing scrutiny over its role in environmental degradation, with fast fashion contributing to excessive waste, pollution, and unsustainable resource use[7]. However, Generation Z is leading a movement away from fast fashion toward more sustainable alternatives, placing pressure on fashion brands to adopt practices such as recycling, ethical sourcing, and reducing carbon footprints. Similarly, the technology sector is experiencing a shift toward sustainability, with Generation Z pushing for more environmentally friendly products and practices, including energy efficiency, longer product lifespans, and responsible e-waste management.

Despite the growing body of research on consumer behavior and sustainability, significant gaps remain in our understanding of how Generation Z specifically influences sustainable consumption across various sectors. Previous studies have largely focused on general consumer attitudes toward sustainability, but few have explored Generation Z's unique role in shaping market dynamics. Furthermore, while consumer awareness has been identified as a critical factor in driving sustainable consumption, limited research exists on how awareness levels differ across generations and how these differences influence consumption behaviors [1].

Another critical gap in the literature is the impact of greenwashing on consumer trust and engagement with sustainable products. While studies have explored the prevalence of greenwashing and its negative effects on consumer trust[5], there is still a need for more comprehensive research on how companies can rebuild trust and communicate their sustainability efforts effectively to consumers, particularly Generation Z. This generation's heightened skepticism of corporate motives makes it especially important for companies to demonstrate a genuine commitment to sustainability rather than relying on marketing tactics that merely give the appearance of environmental responsibility[4].

In addition to greenwashing, the circular economy—a system that seeks to minimize waste and maximize resource efficiency by reusing and recycling materials—remains underexplored in consumer adoption. While the circular economy concept has gained traction in academic and policy circles, there is still limited understanding of how Generation Z and other consumer groups can be effectively engaged in circular economy practices[8]. Without stronger consumer participation, the transition from a linear to a circular economy will likely face significant barriers, particularly in fashion, electronics, and food production, where waste and resource inefficiency remain prevalent.

This study seeks to address these research gaps by conducting a comprehensive bibliometric analysis of academic literature from 2014 to 2024, focusing on consumer awareness, Generation Z, and sustainable consumption. Articles were sourced from Google Scholar, Web of Science (WoS), and Scopus to ensure a broad and comprehensive dataset. The primary objectives of this study are to: (1) Identify key trends in the literature related to consumer awareness and Generation Z's role in driving sustainable consumption. (2) Explore the impact of greenwashing on consumer trust and the effectiveness of corporate sustainability initiatives. (3) Analyze the adoption of circular economy practices and the barriers to engaging consumers, particularly Generation Z, in circular systems.

By addressing these topics, this study aims to provide valuable insights for businesses and policymakers on better engaging with Generation Z consumers and fostering more authentic, sustainable consumption practices. In doing so, it will contribute to the broader literature on sustainable consumption, offering recommendations for overcoming challenges such as greenwashing and enhancing consumer participation in the circular economy.

2. LITERATURE REVIEW

2.1. Consumer Awareness and Sustainable Consumption

Consumer awareness is pivotal in driving sustainable consumption behaviors, as informed consumers are more likely to engage in environmentally and socially responsible practices. Consumer awareness encompasses the knowledge, attitudes, and values that shape consumers' decisions, particularly in the context of environmental sustainability[9]. Research has shown that as consumer awareness about environmental issues such as climate change, pollution, and resource depletion increases, so does the demand for products and services that align with sustainability principles[1].

In particular, there has been a marked shift in consumer behavior toward favoring products that are marketed as environmentally friendly or socially responsible. According to [3], 61% of consumers across various age groups are willing to pay more for sustainable products, with Generation Z showing even stronger preferences. Nielsen's [6] global survey on corporate social responsibility found that 73% of Generation Z consumers are willing to pay a premium for products supporting sustainable causes. These findings underscore the importance of consumer awareness in shaping market dynamics and encouraging businesses to adopt more sustainable practices.

Despite the growing interest in sustainability, consumer awareness alone is often insufficient to drive widespread behavioral change.[10] highlight the gap between environmental awareness and actual sustainable behavior, a phenomenon known as the "value-action gap." Even when consumers express concern about environmental issues, they may not always follow through with sustainable purchasing decisions due to price sensitivity, convenience, or perceived effectiveness. To address this gap, businesses and policymakers must focus on enhancing not only awareness but also access to affordable and convenient sustainable options while ensuring that consumers perceive their actions as impactful.

2.2 Generation Z's Role in Sustainable Consumption

Generation Z, born between the mid-1990s and early 2010s, has emerged as a powerful force in the global sustainability movement. This generation, often called digital natives, has grown up with unparalleled access to information, which has shaped their worldview, particularly regarding social and environmental issues. [2] describe Generation Z as one of the most socially conscious demographics, noting their preference for brands committed to sustainability and corporate social responsibility.

Studies consistently show that Generation Z prioritizes sustainability more than previous generations. Research conducted by McKinsey & Company found that Generation Z consumers are more likely to support brands that align with their values, particularly regarding environmental sustainability and social justice. Accenture's Purpose-Driven Consumers Survey revealed that 62% of Generation Z expect brands to take a stand on social and environmental issues and are quick to disengage from brands that fail to meet these expectations.

Moreover, Generation Z increasingly demands transparency from companies, pushing for detailed information about supply chains, product origins, and environmental impacts. This demand for transparency has been particularly evident in industries such as fashion, where fast fashion has faced intense scrutiny for its contribution to environmental degradation and labor exploitation. [7] argue that Generation Z's growing awareness of the negative externalities associated with fast fashion drives a shift toward more ethical and sustainable alternatives, such as second-hand shopping and slow fashion movements.

Despite these positive trends, further research is needed to understand the long-term implications of Generation Z's sustainable consumption behaviors. While Generation Z consumers are often vocal about their support for sustainability, this highlights the importance of understanding the underlying factors that motivate Generation Z's purchasing decisions and identifying strategies to encourage more consistent engagement with sustainable consumption practices.

2.3 Greenwashing and its Impact on Consumer Trust

One significant challenge facing businesses and consumers in the sustainability landscape is greenwashing—the practice of making false or exaggerated claims about a product's environmental benefits. Greenwashing undermines genuine sustainability efforts and erodes consumer trust, making it more difficult for consumers to differentiate between genuinely sustainable products and those that are merely marketed as such[4].

The prevalence of greenwashing has been well-documented in industries such as fashion, food, and cosmetics, where brands often use eco-friendly labels or imagery without substantiating their claims with meaningful action. [5] conducted a systematic review of greenwashing and found that while awareness of greenwashing is growing, it remains a significant obstacle to advancing sustainable consumption. Their findings suggest that greenwashing not only diminishes consumer trust but also creates confusion, leading to consumer disengagement from sustainability initiatives altogether.

For Generation Z, a demographic that places a high value on authenticity and transparency, greenwashing is particularly damaging. Generation Z consumers are more likely to hold companies accountable for their environmental claims. They are quick to expose brands that engage in deceptive marketing practices. The rise of social media has amplified this accountability, with platforms such as Instagram and Twitter providing Generation Z consumers with the

means to share information and call out companies for misleading sustainability claims. However, further research is needed to understand how companies can rebuild consumer trust after being accused of greenwashing and what measures can be taken to prevent greenwashing from occurring in the first place.

2.4 Circular Economy and Consumer Engagement

The transition to a circular economy, which aims to minimize waste and make the most of resources through reuse, recycling, and redesign, has been widely promoted as a solution to the environmental challenges posed by traditional linear economies. A circular economy reduces resource consumption and encourages sustainable business practices that are both economically viable and environmentally friendly [8]. However, while the circular economy concept has gained significant traction among policymakers and industry leaders, consumer engagement with circular economy practices remains limited.

According to [8], consumer participation is one of the biggest barriers to a full transition to a circular economy. The authors argue that consumers often lack the necessary awareness, motivation, or infrastructure to participate in circular economy initiatives, such as product take-back schemes or sharing platforms. For Generation Z, who are more likely to engage with environmental initiatives, there is potential for increased participation in circular economy activities if awareness and accessibility are improved.

A key challenge in promoting circular economy practices is overcoming the convenience of linear consumption models, where products are designed for single-use or short-term consumption. To engage consumers—particularly Generation Z—in circular economy practices, businesses need to prioritize environmental benefits, convenience, affordability, and accessibility [8]. Future research should focus on identifying the most effective strategies for increasing consumer participation in circular economy activities and exploring how businesses can create value for consumers through circular business models.

3. METHODOLOGY

This study relies on data gathered from articles indexed on Google Scholar. Data collection was facilitated by Publish or Perish, a reference management tool designed to extract citation data from various scholarly databases, including Google Scholar. Publish or Perish was employed to perform a thorough literature review on sustainable consumption, Generation Z, and consumer awareness.

The criteria for selecting articles required that each publication be indexed by Google Scholar, formatted as a journal article, and saved in .ris format for further analysis through VOSviewer. After collection, the articles were filtered to include only those that specifically addressed sustainable consumption and consumer behavior, focusing on Generation Z.

The search within Publish or Perish was conducted using keywords such as "Sustainable Consumption," "Generation Z," and "Consumer Awareness," targeting the title, abstract, and keywords fields. The search was confined to articles published between 2014 and 2024, retrieving 256 relevant articles, which were subsequently filtered for thematic relevance.

The filtered articles were exported in .ris format and processed through VOSviewer to generate bibliometric visualizations. These visualizations illustrated trends in the literature through keyword co-occurrences, author collaborations, and citation networks. Additionally, the study analyzed the annual distribution of publications and highlighted the top 20 most-cited articles among the collected literature.

4. RESULT AND DISCUSSION

4.1. Research Trends in Sustainable Consumption and Generation Z

The bibliometric analysis identified key research trends in the fields of sustainable consumption and Generation Z. Articles published between 2014 and 2024 were retrieved using the keywords "Sustainable Consumption," "Generation Z," and "Consumer Awareness," with data gathered from Google Scholar, Web of Science, and Scopus databases.

The analysis revealed a growing interest in the subject, with notable publication increases from 2015 to 2020. However, similar to other emerging fields, the volume of publications slightly declined after 2021, which may be attributed to shifts in research focus or global disruptions such as the COVID-19 pandemic. Despite this, Generation Z remains a dominant research focus, especially in their role in influencing sustainable market behaviors.

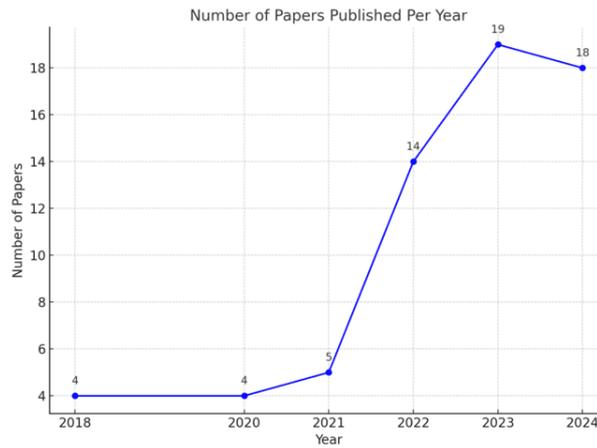


Figure 1. Number of papers published of year

The line chart illustrates the number of papers published per year from 2018 to 2024, focusing on topics related to sustainable consumption and Generation Z. From 2018 to 2020, there was minimal fluctuation, with a consistent number of around four papers published each year, indicating a relatively low level of academic attention during this period. However, in 2021, the number of publications increased slightly to 5 papers, suggesting a growing interest in the subject as awareness of environmental issues and the influence of Generation Z started to gain traction.

The most significant growth occurred between 2022 and 2023 when publications jumped from 14 papers in 2022 to 19 in 2023. This sharp increase reflects the rising importance of sustainability as a research topic, likely fueled by the global focus on climate change and the recognition of Generation Z as a key demographic driving market trends towards sustainability. This generation's influence on corporate and policy decisions contributed to the surge in academic research during these years.

By 2024, the number of publications saw a slight decline, dropping to 18 papers, but it remained significantly higher than the levels observed in earlier years. This slight decrease could indicate a saturation in certain research areas or a stabilization of interest after intense focus. Overall, the chart demonstrates a clear upward trend in academic engagement with sustainable consumption and Generation Z topics, particularly after 2021, emphasizing the growing recognition of this demographic's impact on consumer behavior and sustainability practices.

Table 1. Papers published

Authors	Title	Year	Journal	Publisher	Citations
J Bhattacharyya	The structure of sustainability marketing research: a bibliometric review and directions for future research	2023	Asia-Pacific Journal of Business Administration	emerald.com	200
P Sinha, M Sharma, R Agrawal	A systematic review and future research agenda for sustainable fashion in the apparel industry	2022	Benchmarking: an international	emerald.com	199
DT Vergura, C Zerbini, B Luceri, R Palladino	Investigating sustainable consumption behaviors: a bibliometric analysis	2023	British Food Journal	emerald.com	198
D Vrontis, A Thrassou, N Uzunboylu	An overview of business for sustainability: strategic avenues and managerial approaches	2023	Business for Sustainability	Springer	197
D Mehraj, IH Qureshi	Evaluating the emerging opportunities and challenges from green marketing practices among Indian manufacturing industries	2022	Business Strategy & Development	Wiley Online Library	196
RR Choudhury, AF Islam, M Sujauddin	More than just a business ploy? Greenwashing as a barrier to circular economy and sustainable development: A case study-based critical review	2024	Circular Economy and	Springer	195
HF Haba, C Bredillet, O Dastane	Green consumer research: Trends and way forward based on bibliometric analysis	2023	Cleaner and Responsible Consumption	Elsevier	194

B Teufer, S Grabner-Kräuter, C Bachner	Sustainable development outcomes of alternative consumer networks—A systematic review and logic model development	2024	Cleaner and Responsible	Elsevier	193
M Aulia, AZ Afiff, SRH Hati, G Gayatri	Consumers' Sustainable Investing: A Systematic Literature Review and Research Agenda	2024	Cleaner and Responsible	Elsevier	192
H Azam, N Muhamad	A review of psychological resilience: paving the path for sustainable consumption	2024	Cogent Business &	Taylor & Francis	191
P Dangaiso	Extending the theory of planned behavior to predict organic food adoption behavior and perceived consumer longevity in subsistence markets: a post-peak COVID-19	2023	Cogent Psychology	Taylor & Francis	190
D Iacobucci, MLDS Gabriel, MJ Schneider	Marketing research on environmental sustainability	2020	Continuing to Broaden	emerald.com	189
S Goyal, P Goyal	The evolution of pro-environmental behavior research in three decades using bibliometric analysis	2024	Corporate Social Responsibility and	Wiley Online Library	188
F Bonelli, R Caferra, P Morone	In need of a sustainable and just fashion industry: identifying challenges and opportunities through a systematic literature review in a Global North/Global	2024	Discover Sustainability	Springer	187
A Gonçalves, C Silva	Looking for sustainability scoring in apparel: A review on environmental footprint, social impacts and transparency	2021	Energies	mdpi.com	186
A Desore, SA Narula	An overview on corporate response towards sustainability issues in textile industry	2018	Environment, Development and Sustainability	Springer	185
M Hael, SA Hazaea, H Zhang, H Mareeh	Mapping the literature trends of consumer behavior and sustainability: insights from a bibliometric analysis approach	2024	Environment, development and	Springer	184
S Symeonidou, D Vagiona	The role of the water footprint in the context of green marketing	2018	Environmental Science and Pollution	Springer	183
H Husamah, H Suwono, H Nur, A Dharmawan	Sustainable Development Research in Eurasia Journal of Mathematics, Science and Technology Education: A Systematic Literature Review.	2022	Eurasia Journal of	ERIC	182
D Ofori	Opportunities and challenges of green marketing	2021	Green Marketing in Emerging Markets: Strategic and	Springer	181

4.2 Visualization of Sustainable Consumption and Generation Z Topic Area using VOSviewer

In visualizing the topic area for sustainable consumption and Generation Z, we utilized VOSviewer to map and analyze the co-occurrence of terms within the collected articles. The visualization provides insights into the most prominent research themes by examining keywords extracted from the title and abstract sections of the selected papers.

The minimum number of relationships between terms in VOSviewer was set to 2, meaning only keywords that co-occurred at least twice across the dataset were included in the analysis.

4.2.1 Network Visualization Of Sustainable Consumption In Z Generation

The network visualization illustrates the relationships between key terms in sustainable consumption and Generation Z research. The connections between these terms are represented as lines or links, indicating co-occurrences within the

same research papers. Figure 2 shows the different clusters for each research topic area. Based on the results from VOSviewer, the network comprises five main clusters, with a total link strength of 1064 and 68 items analyzed. The largest node in the visualization is "sustainable consumption," which serves as the central term within Cluster 1. The other clusters revolve around related research areas, such as "consumer awareness," "green marketing strategy," and "Generation Z."

The network is divided into five distinct clusters, each marked with a different color: (1) Cluster 1 (Green): This is the largest cluster, consisting of 30 items, including keywords like sustainable consumption, awareness, consumer, green marketing practice, and environmental concern. The term "sustainable consumption" serves as the central node in this cluster, which connects to a wide range of terms related to consumer behavior and marketing strategies in sustainability. (2) Cluster 2 (Yellow): This cluster contains 25 items, with "sustainable development goals (SDGs)" as the main node. The cluster focuses on the intersection between sustainable consumption and broader global goals such as the SDGs, indicating an alignment of research efforts with international sustainability agendas. (3) Cluster 3 (Red): Comprising 20 items, this cluster highlights keywords like "greenwashing," "fashion industry," and "role." This cluster emphasizes challenges related to deceptive marketing practices and the role of industries, such as fashion, in promoting sustainable consumption. (4) Cluster 4 (Blue): This cluster has 15 items centered around terms like "young consumer," "trend," "hospitality," and "circular economy." It focuses on Generation Z's and younger consumers' influence on future consumption trends, particularly in industries like hospitality. (5) Cluster 5 (Purple): The smallest cluster, with 10 items, includes terms like "circular economy," "importance," and "apparel." It reflects research interest in the role of circular economy models and their impact on sectors like fashion.

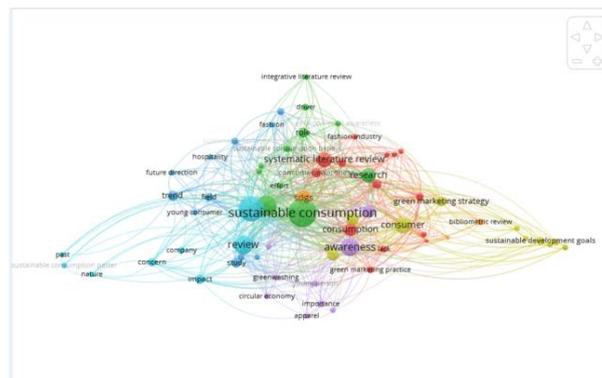


Figure 2. Network visualization of sustainable consumption keywords

The main nodes in each cluster are identified based on their connections with other keywords and the frequency with which they appear across the dataset.

The network visualization provides an overview of how various research topics are interrelated within the broader theme of sustainable consumption. Figure 3 below showcases the network of Cluster 1, where "sustainable consumption" serves as the central node connecting 30 related terms, such as consumer awareness, green marketing, and environmental concern. This visualization highlights the complexity and interconnectedness of the research field, underscoring the diversity of topics currently being explored in the literature. The strong connections between these terms indicate that much research focuses on understanding how consumer awareness and behaviors drive sustainable consumption practices. Additionally, topics like green marketing highlight the strategies businesses are adopting to promote environmentally friendly products. The prominence of "sustainable consumption" as the central node suggests that this theme forms the foundation of the field, with research efforts concentrating on encouraging more responsible consumption behaviors through marketing, consumer education, and environmental awareness.

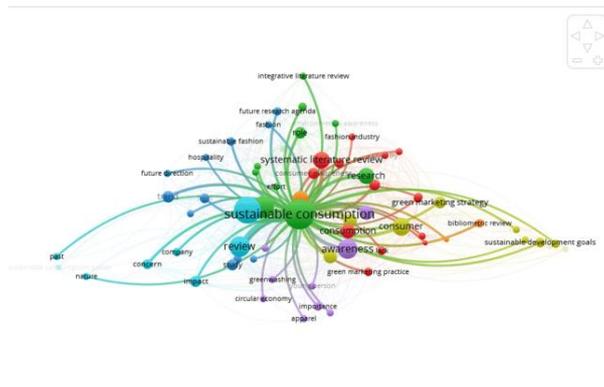


Figure 3. Network visualization of cluster 1

Cluster 2, represented in yellow, revolves around the central term "sustainable development goals (SDGs)." This cluster focuses on the relationship between sustainable consumption and broader global sustainability frameworks, particularly the SDGs. Key terms in this cluster include "bibliometric review," "green marketing strategy," and "consumer," indicating that the research connected to this cluster is concerned with aligning consumer behaviors and marketing strategies with the pursuit of the SDGs. The presence of a "green marketing strategy" suggests that many studies in this cluster examine how businesses can adopt sustainable practices that contribute to achieving the SDGs while maintaining consumer trust and engagement. The strong linkages between SDGs and terms like "consumer" and "awareness" further highlight the importance of fostering consumer awareness about sustainability to promote responsible consumption that supports these global goals.

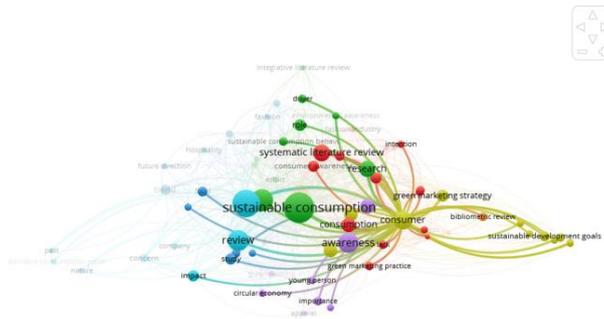


Figure 4. Network visualization of cluster 2

The network visualization's red cluster (Cluster 3) focuses on themes such as systematic literature review, fashion industry, consumer awareness, and intention. This cluster highlights the role of comprehensive reviews in analyzing the state of research related to sustainable consumption, particularly in industries like fashion. The terms consumer awareness and intention suggest that much of the research explores how consumers' knowledge and intentions influence their purchasing decisions, especially within sustainability. The fashion industry emerges as a critical study area, reflecting its growing focus on sustainable practices and its impact on consumer behavior.

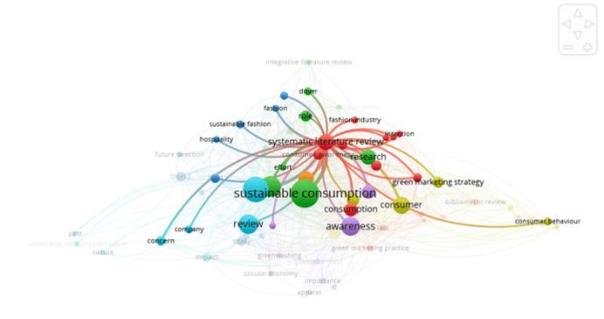


Figure 5. Network visualization of cluster 3

Key terms like "sustainable consumption," "consumer," and "awareness" appear in shades of blue and green, indicating that they have been focal points in research since 2021. These foundational concepts reflect ongoing interest in understanding how consumer behavior and awareness impact sustainability practices.

In contrast, terms shaded in yellow, such as "sustainable development goals (SDGs)" and "green marketing strategy," are more recent additions to the discourse, gaining attention in 2023 and continuing into 2024. This suggests a shift toward exploring how global sustainability initiatives, such as the SDGs, can be integrated with consumer marketing strategies to promote sustainable consumption.

The overlay also highlights emerging trends in research, with topics like "circular economy" and "greenwashing" showing growing relevance, as indicated by their lighter green coloring. This reflects the increasing academic focus on the circular economy model and concerns over companies' deceptive environmental claims.

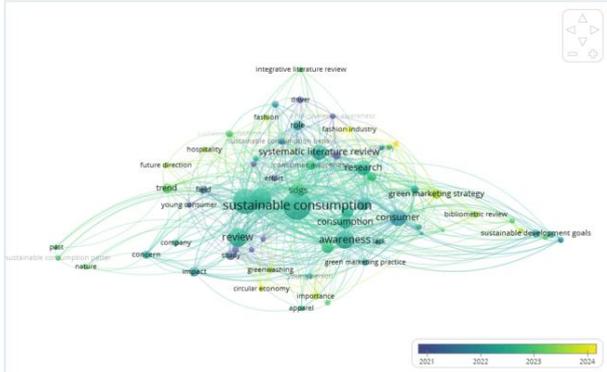


Figure 8. Overlay Visualization Of Sustainable Consumption Keyword

4.2.3 Density Visualization of Sustainable Consumption

The density visualization presented here provides an overview of sustainable consumption research's most frequently occurring terms. In this visualization, areas of higher intensity (yellow) represent terms that appear more frequently across the analyzed literature, while areas with lower intensity (green or blue) indicate less frequent terms.

At the core of the visualization, "sustainable consumption" is the most prominent term, highlighted in bright yellow, signifying its central role in the research. This indicates that most literature revolves around understanding sustainable consumption and its various dimensions. Surrounding this core, terms like "consumer," "awareness," "review," "SDGs," and "green marketing strategy" also appear frequently, showing the research's focus on consumer behavior, awareness, and the strategies used by businesses to promote sustainability.

Terms like "sustainable development goals (SDGs)" and "systematic literature review" appear in moderately dense areas, suggesting that these are significant yet slightly less central themes. This reflects growing research interest in aligning sustainable consumption with global sustainability frameworks and conducting comprehensive reviews to assess current knowledge.

On the periphery, terms such as "greenwashing," "circular economy," and "hospitality" are displayed in less intense colors, indicating emerging but less frequently studied topics within the field. These terms represent newer areas of inquiry where research is still developing.

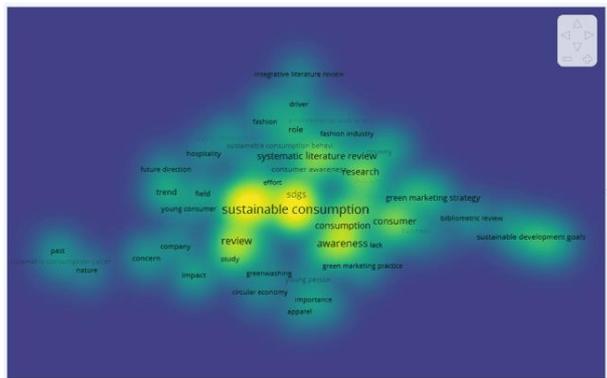


Figure 9. Density Visualization of Sustainable Consumption Keyword

5. CONCLUSION

This study provides a comprehensive bibliometric analysis of research on sustainable consumption and Generation Z using VOSviewer. The network, overlay, and density visualizations reveal several key themes and trends in the literature, shedding light on the central role of consumer awareness, green marketing strategies, and the alignment with global sustainability frameworks, such as the Sustainable Development Goals (SDGs)

The analysis identified five main clusters, with sustainable consumption emerging as the central theme, connected to other significant topics like consumer behavior, green marketing, and awareness. Research in these areas focuses on how informed consumers and businesses adopting sustainable practices contribute to environmental sustainability. Generation Z's influence and growing demand for ethical and sustainable products have also become a prominent research focus.

Through the overlay visualization, it was evident that recent research has increasingly emphasized the importance of aligning sustainable consumption with the SDGs, indicating a shift in academic interest toward integrating global sustainability initiatives into business strategies and consumer behavior. The emerging interest in themes such as greenwashing and the circular economy highlights the growing concern over deceptive marketing practices and the need to transition toward more sustainable production and consumption models.

The density visualization further underscores the prominence of sustainable consumption as the core concept in this field while identifying areas such as greenwashing, circular economy, and industry-specific applications (e.g., fashion, hospitality) as emerging topics needing further research.

In conclusion, this study demonstrates that the academic discourse on sustainable consumption is evolving, with increasing attention paid to consumer awareness, business strategies, and aligning sustainability efforts with global frameworks. However, there remain gaps in the literature, particularly in addressing the challenges of greenwashing and the practical implementation of circular economy models. Future research should continue to explore these emerging areas and consider Generation Z's role in shaping sustainable consumption's future.

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