

Sustainable Consumption on Marketing Concept: A Bibliometric Analysis (2003-2023)

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ABSTRACT

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In this ever-evolving era, sustainability has become a crucial issue in society and business. Understanding the relationship between sustainable consumption and marketing is crucial to drive sustainable consumption behaviors. This research aims to gain theoretical and structural understanding from existing literature to identify future directions in marketing and to explore and enhance contributions to sustainable consumption research. Through bibliometric analysis, this study identifies trends, patterns, and recent research contributions in relevant literature, encompassing 193 publications in Scopus. The researchers found that research pertaining to sustainable consumption has experienced rapid growth in the past two years (2021-2023), indicating a high level of interest in this field.

1. INTRODUCTION

Household garbage, or domestic rubbish, is a major part of the worldwide waste management problem. There are many different elements that affect the content and volume of home trash, including waste management techniques, consumption trends, and lifestyle [1]. This directly indicates that as economic activities increase, it will result in a corresponding increase in the utilization of natural resources and production of goods for society. The demand for these production activities can clearly lead to massive exploitation of natural resources [2]. It is even recorded that since 1950, plastic waste worldwide has reached 8 billion tons [3]. According to United Nations Environment Programme [4], these impacts are driven by socio-economic desires rather than actual needs. However, with its development, consumers are now becoming more aware of the impact of their consumption choices and decisions, and they are starting to seek more sustainable alternatives. This is what drives the transition towards a sustainable consumption model [5].

Essentially, sustainable consumption is a holistic concept that promotes resource and energy efficiency, sustainable infrastructure, and minimizes negative environmental impacts. By changing consumption patterns through lifestyle and behavioural changes, individual consumer choices, and procurement strategies in the public sector, sustainable consumption aims to achieve these goals [6]. Sustainable consumption itself emerged in 1992 during the United Nations Conference on Environment and Development held in Rio de Janeiro [7]. Sustainable consumption has increasingly become an interesting topic in the field of marketing due to the growing awareness of environmental degradation, climate change, and

social inequality [8]. Along with that, businesses are starting to realize the need to adopt sustainable practices in order to meet the demands of society and remain competitive in the market [9].

In the context of marketing, sustainable consumption refers to considering the environmental, social, and even economic impacts in consumption decisions throughout the product life cycle [10]. By understanding the environmental consciousness associated with consumption, marketing can be used as a powerful tool to promote sustainable practices and encourage consumers to choose environmentally friendly products. Given the breadth and depth of existing research on this topic, a comprehensive literature review (bibliometric analysis) is needed to identify the main research themes, emerging research trends, and research gaps in this field.

According to Liu and Zhu [11], bibliometric analysis is a useful approach to examine publication patterns, citation networks, and research collaborations within a specific keyword. By conducting research through bibliometric methods on literature related to sustainable consumption in marketing, we can gain deeper insights into the existing knowledge structure, knowledge dissemination, and research dynamics in this field. Overall, this bibliometric analysis and literature review aim to contribute to the advancement of knowledge in the field of sustainable consumption in the context of marketing. By identifying the most influential research themes and authors, as well as emerging research trends relevant to the topic under investigation, this research is expected to provide a deeper understanding of current knowledge, existing research gaps, and potential directions for future research.

2. METHODOLOGY

According to Mulet-Forteza et al. [12], bibliometric approach is a research method that utilizes bibliographic data to analyse trends and patterns in a specific field. The data source used in this study was obtained from the Scopus database. The researchers conducted a knowledge-based analysis using evaluative and relational techniques. The evaluative technique was employed to assess publications based on distribution by year, number of journals, number of authors, affiliations, and others. The relational technique was used to analyse relationships between parameters, such as authors, citations, affiliations, and so on. In this study, the method employed was bibliometric analysis to provide a comprehensive overview of bibliometric research in the field of sustainable consumption over the past 20 years (2003-2023). Figure 1 illustrates the stages of this research, which were adapted from the study conducted [13].

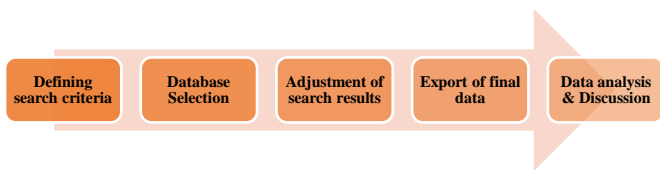


Figure 1. Methodology of bibliometric analysis
Source: Created by Author

We focused this research only on articles that discuss sustainable consumption in marketing. The first step we took was to search for articles based on the keywords "Sustainable Consumption" and "Marketing". Next, the researchers filtered only indexed journals, and then manually reviewed titles and

abstracts that were relevant to the topic of sustainable consumption, resulting in 193 documents. We used the PRISMA framework for the systematic review in this study, which only included searches based on our chosen keywords (Figure 2). Four steps were performed: identification, screening, eligibility assessment, and final inclusion of papers. Papers were included from the period January 2003 to October 2023, starting with 193 papers containing 95 keywords analysed on the VOS Viewer app. Finally, 193 papers with 65 keywords were included according to the predefined eligibility criteria.

To illustrate the relationships and interactions between the indicators to be studied, the researchers used VOS Viewer software to create clearer visualizations of keyword co-occurrence. Network metrics can provide deeper insights into bibliometric analysis assessments [14]. According to Van Eck and Waltman [15], by interpreting bibliometric maps through VOS Viewer, the displayed network can encompass various elements such as journals, authors, or institutions. These elements can be connected based on citations, bibliographic relationships, co-citations, or co-authorship relationships. The visualization results are presented in the form of circles representing the analysed elements. Here are some interpretations:

a) The larger the circle, the higher the weight of the element in the network.

b) The distance between circles indicates the level of relatedness. Closer distances indicate stronger relationships between their works.

c) Thicker lines represent stronger connections between elements.

d) The location and colour of circles indicate the grouping of elements based on clusters.

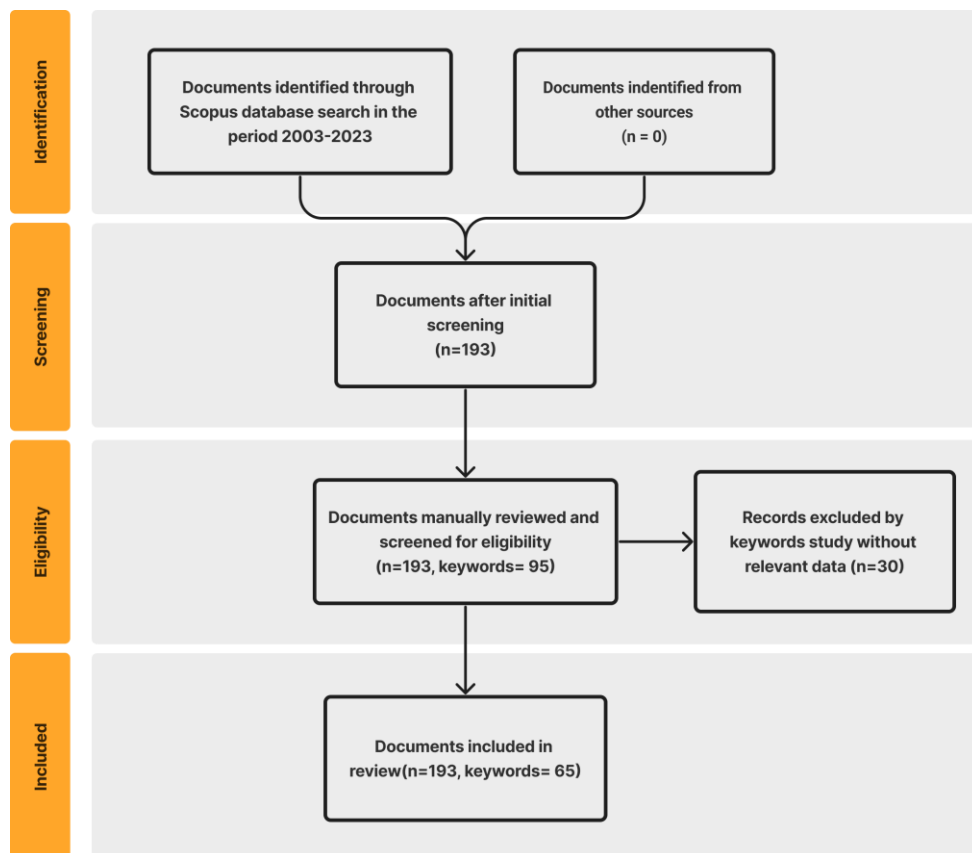


Figure 2. PRISMA framework
Source: Created by Author

3. RESULTS AND ANALYSIS

In this section, the researchers present the bibliometric analysis results from research sources that discuss sustainable consumption and its relationship with marketing. The research began by analyzing the publication and citation structure of articles addressing the topic. By identifying journals over the past 20 years, the top 10 authors with the highest number of publications, the most cited journals, and the distribution of frequently occurring keywords related to sustainable consumption were determined.

3.1 Number of paper

From the search results of the keywords "Sustainable Consumption" and "Marketing" in the Scopus database, the researchers found a total of 193 publications from 2003 to 2023 (Table 1). The average annual publication count over the past 20 years reached 10.2 publications. The trend of publications related to sustainable consumption shows an increasing trend from year to year, with the highest level of research in 2022 at 37 publications (19%). We also observed a low research productivity in the early years of 2003, 2006, and 2007, with only 1 article each (0.5%).

Table 1. Number of paper

Years	Numbers of Paper
2023	35
2022	37
2021	19
2020	17
2019	17
2018	17
2017	8
2016	10
2015	6
2014	4
2013	5
2012	5
2011	3
2010	2
2009	3
2008	2
2007	1
2006	1
2003	1
Total	193

Source: Created by Author

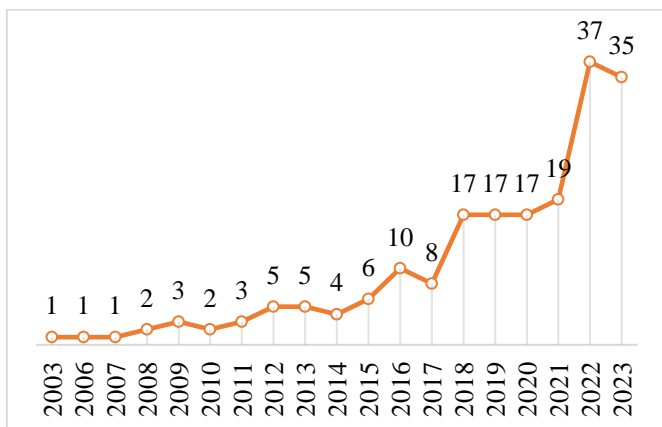


Figure 3. Evolution of number of articles from 2003 to 2023
Source: Created by Author

Figure 3 illustrates the pattern of increasing publication counts during the research period. However, it should be noted that there were fluctuations in certain years, such as a decrease of 1 publication in 2009-2010 and 2013-2014, and the highest decrease of 2 publications in 2017. The number of publications on sustainable consumption experienced a significant surge from 2021 to 2022, reaching 18 publications (32%) compared to the previous year. This rapid increase indicates a growing interest in this research field and an increased awareness of the importance of sustainable consumption. Another important point to consider in this study is that the data presented is still tentative as this research was conducted in the year 2023, and there is a possibility of additional publications being added.

3.2 Top authors

This study presents a descriptive analysis of the authors who are most active in producing journal publications related to sustainable consumption. Table 2 illustrates the top 10 authors with the highest number of journal publications. The data is sorted based on the number of journal publications, with a criterion that if two or more authors have the same number of publications, the author with the highest number of citations will receive a higher ranking. The top author in the field of sustainable consumption is Peter Jones, who has a total of 5 publications. Peter's research spans from 2009 to 2014, with his most recent publication being "Sustainable consumption and the UK's leading retailers".

Table 2. Top 10 leading authors

Author	Numbers of Paper
Peter Jones	5
Irene Kamenidou	2
Katia Vladimirova	2
Camela Donato	2
Godswill Agus	2
Pawel Bryla	2
Iris Vermeir	2
Nottakrit	2
Gill Seyfang	2
Naz Onel	2

Source: Created by Author

3.3 Top citations

As part of this research, an identification was conducted on the 10 most influential publications based on the number of citations. Table 3 provides detailed information on the citation count, publication journal title, author names, year of publication, and the number of citations received per year (C/Y). The top-ranked article was authored by Iris Vermeir & Wim Verbeke (2008), titled "Sustainable food consumption among young adults in Belgium: Theory of planned behavior and the role of confidence and values." This article received a total of 686 citations with an average of 45.73 citations per year. In second place, A. Prothero, S. Dobscha, J. Freund & W. E. Kilbourne (2011) presented the article "Sustainable consumption: Opportunities for consumer research and public policy" which explores sustainable consumption considering the role of marketing, consumers, and public policymakers in addressing various sustainability challenges facing the planet. This publication has received a total of 497 citations with an average of 41.42 citations per year. Following that, an article authored by A. R. Brough, J. E. B. Wilkie, J. Ma, M. S. Isaac,

S. Gal (2016) obtained a total of 324 citations with an average of 26.29 citations per year. This article discusses the gender

gap in sustainable consumption and is titled “*The green-feminine stereotype and its effect on sustainable consumption*”.

Table 3. The 10 most cited documents

Ranking	Citation	Title	Author	Years	C/Y
1	686	Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values	Iris Vermeir & Wim Verbeke	2008	45.73
2	497	Sustainable consumption: Opportunities for consumer research and public policy	A. Prothero, S. Dobscha, J. Freund & W. E. Kilbourne	2011	41.42
3	324	The green-feminine stereotype and its effect on sustainable consumption	A. R. Brough, J. E. B. Wilkie, J. Ma, M. S. Isaac, S. Gal	2016	46.29
4	256	Feelings that Make a Difference: How Guilt and Pride Convince Consumers of the Effectiveness of Sustainable Consumption Choices	P. Antonetti & S. Maklan	2014	28.44
5	237	Sustainable fashion consumption and the fast fashion conundrum: Fashionable consumers and attitudes to sustainability in clothing choice	L. Mcneill & R. Moore	2015	29.63
6	168	Inside the sustainable consumption theoretical toolbox: Critical concepts for sustainability, consumption, and marketing	Weng Marc Lim	2017	28.00
7	157	Framing behavioural approaches to understanding and governing sustainable tourism consumption: beyond neoliberalism, "nudging" and "green growth"?	Colin Michael Hall	2013	15.70
8	150	The consumption side of sustainable fashion supply chain: Understanding fashion consumer eco-fashion consumption decision	T. Chan & C.W.Y. Wong	2012	13.64
9	109	Trust Management in Organic Agriculture: Sustainable Consumption Behavior, Environmentally Conscious Purchase Intention, and Healthy Food Choices	G. Lazaroiu, M. Andronie, C. Uta & L. Hurloiu	2019	27.25
10	102	Individual strategies for sustainable consumption	S. McDonald, C. J. Oates, P. J. Alevizou, C.W. Young, & K. Hwang	2012	9.27

Abbreviations: C/Y = Citations per year.

Source: Created by Author

3.4 Co-occurrence

This review utilizes a density cluster citation map to identify groups of authors who share similar perspectives in their research. Figure 4 presents a visual graphical mapping of journal publications related to sustainable consumption based on a co-occurrence network map. The network depicts relationships among terms that have been visualized [16]. As seen in Figure 4, several terms frequently appear in journal publications related to sustainable consumption over the past 20 years (2003-2023). The authors employed the co-occurrence analysis method along with a full counting approach to identify 95 frequently co-occurring keywords [17]. Only 65 keywords met our criteria, which focused on "sustainability," "consumption," and "marketing". The co-occurrence analysis created by VOS Viewer identified three clusters that are color-coded and interconnected in the co-occurrence map. The colours of each cluster symbolize variations in relevance, proximity, and interconnection [18].

The articles within the red cluster analyse consumer behaviour related to sustainable consumption. Prominent nodes within the red cluster depict stronger relationships among the keywords, indicating that many researchers in the field of sustainable consumption focus on consumer behaviour. In the green cluster, the interrelationships among keywords revolve around consumption from a marketing perspective. Lastly, the blue cluster represents the role of sustainable food consumption. The larger the size of the circles in Figure 4, the more frequently those terms are used [15].

According to the co-occurrence analysis, the frequently appearing terms (co-occurring keywords) are "sustainable consumption," "consumption," and "marketing." This suggests a substantial connection between sustainable consumption and marketing as a whole. Sustainable consumption in the context of marketing refers to promoting responsible consumption patterns that are environmentally and socially conscious. By implementing marketing strategies that support environmentally friendly products and services and raising awareness of the importance of environmental preservation, it helps facilitate the shift from consumerism to more sustainable consumption patterns [19].

Furthermore, there is empirical support regarding consumer behaviour towards sustainable consumption, as explained by Carrington et al. [20] which raises the question, "How does sustainability-focused marketing communication affect consumer perceptions and purchase intentions?" The research findings indicate that sustainability-focused brand communication can influence consumer perceptions of the brand and lead to a tendency to have more positive perceptions of the brand.

In addition to behavioural context, consumer awareness of environmental issues can also influence attitudes and behaviours towards sustainable purchasing. For instance, in the context of food consumption, research conducted by Vermeir and Verbeke [21], which is the most cited study in this bibliometric analysis, depicts that higher consumer awareness of environmental issues corresponds to a greater likelihood of engaging in sustainable food purchasing.

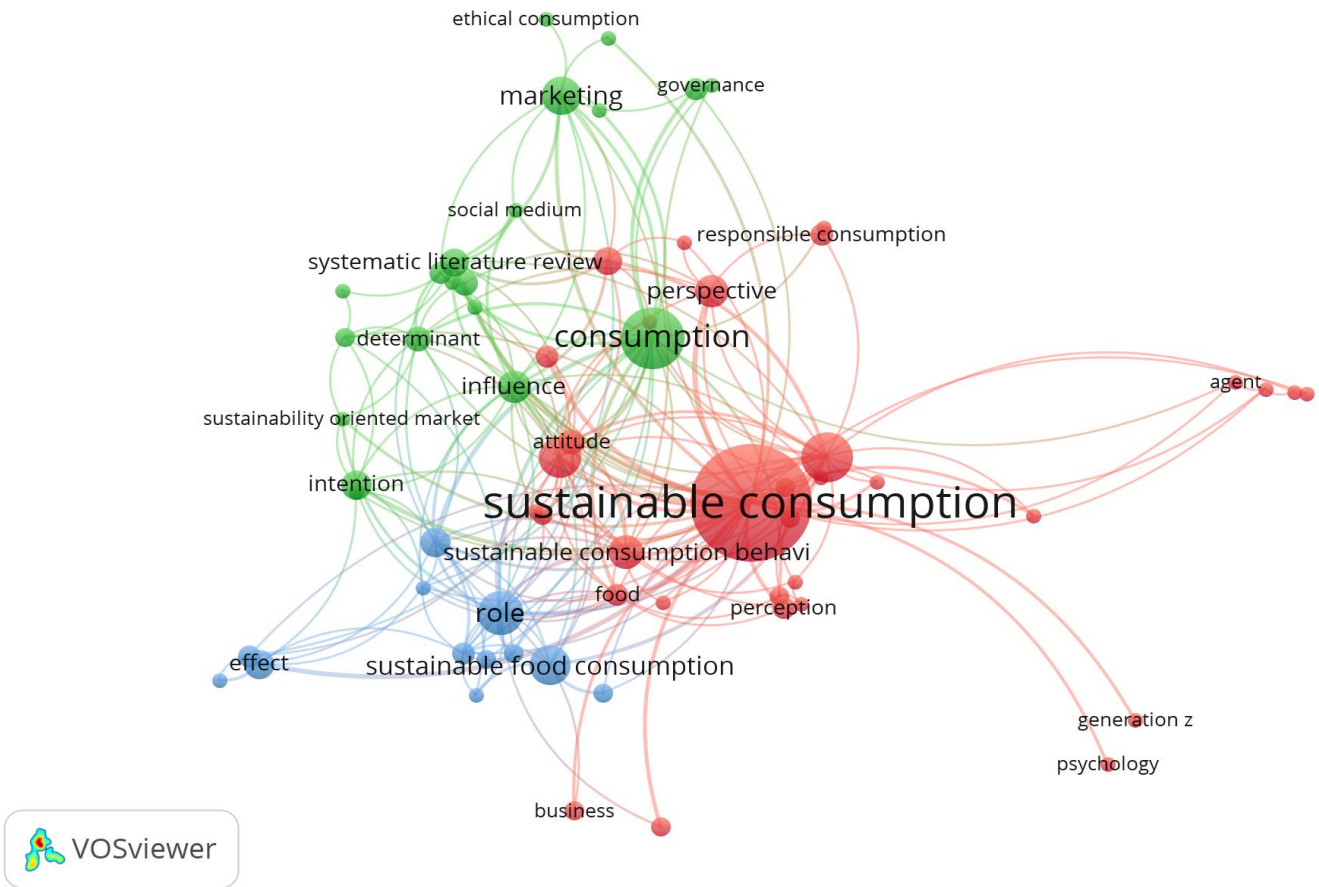


Figure 4. Co-occurrence of keywords
Source: VOS Viewer Result

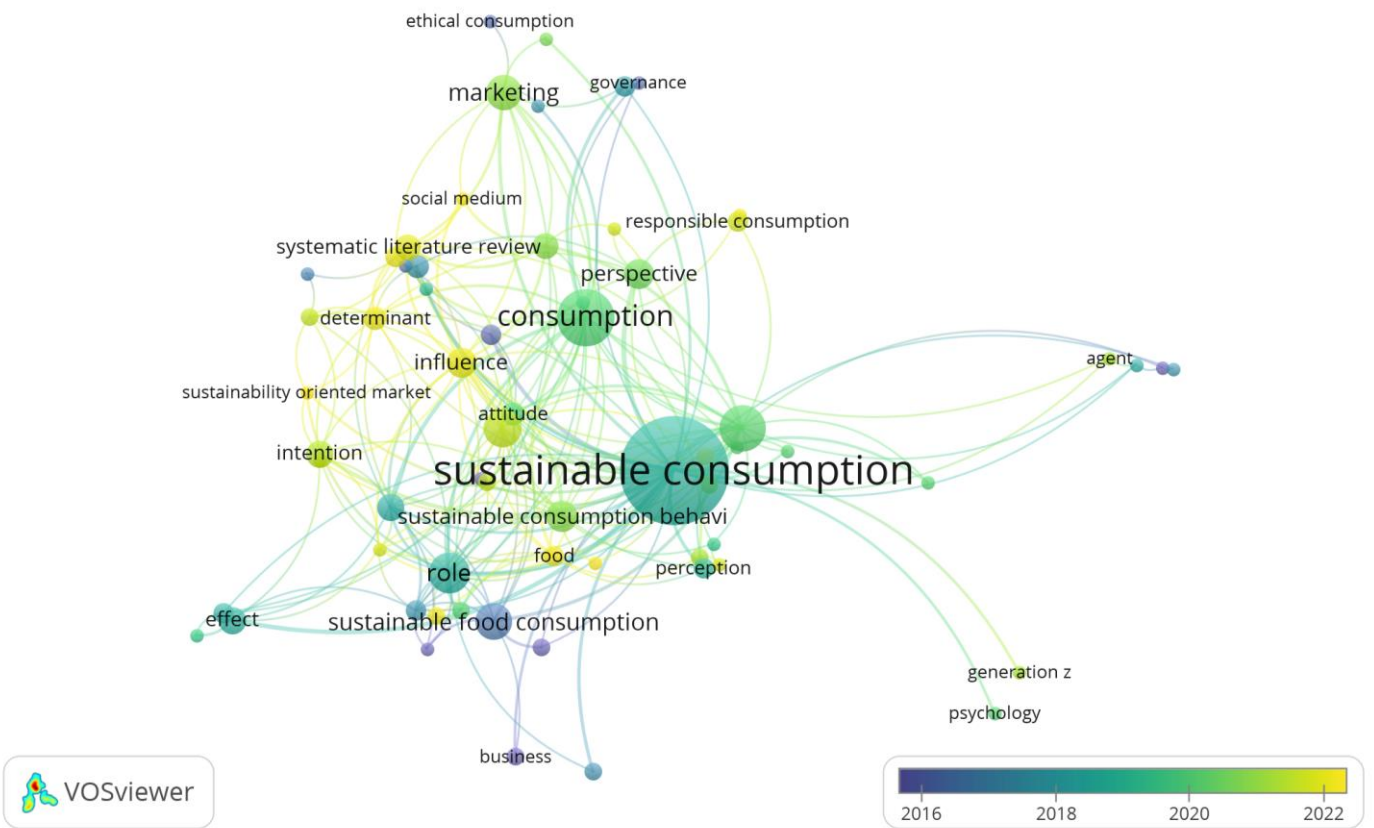


Figure 5. Overlay visualization of co-occurrence
Source: VOS Viewer Result

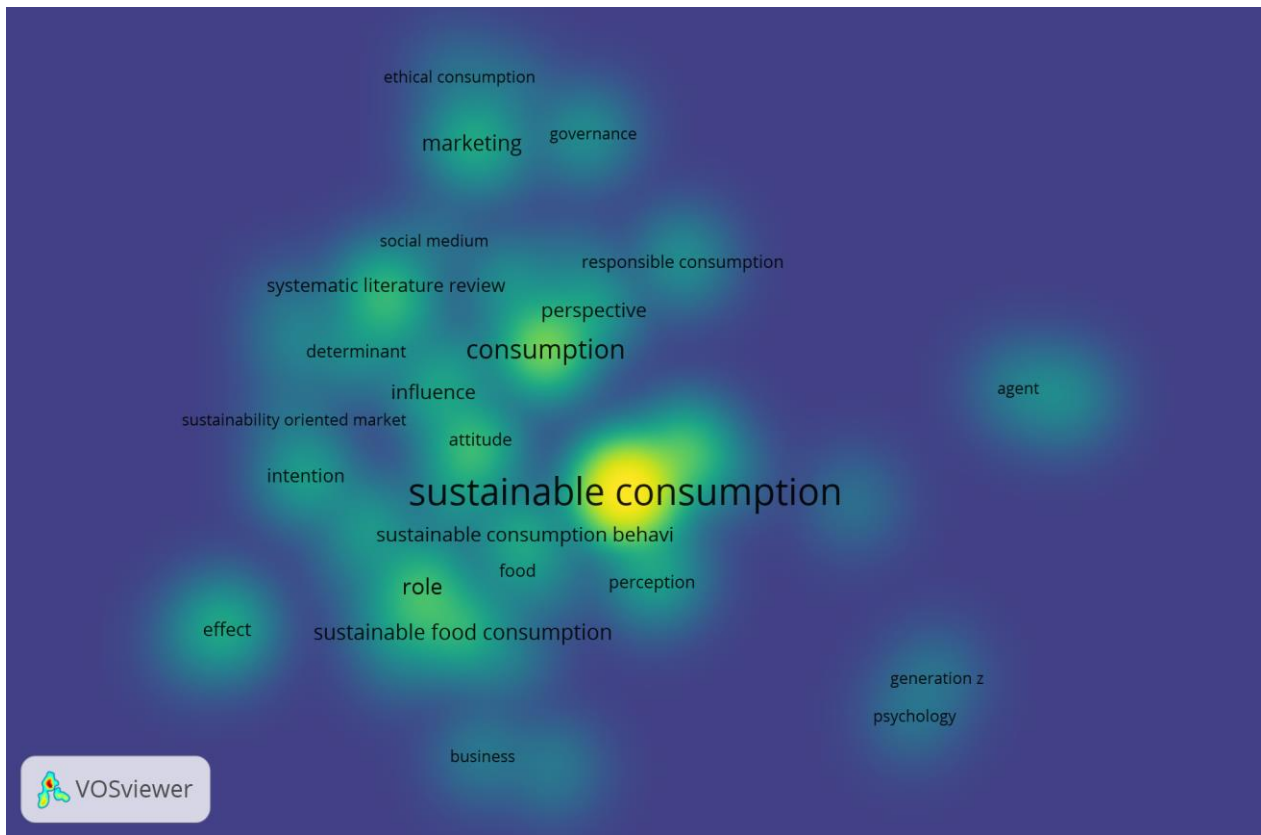


Figure 6. Density visualization of co-occurrence
Source: VOS Viewer Result

Figure 5 represents the visualization of the extent to which specific terms have gained popularity over time. The increasing yellow colour of the clusters indicates the recency of the corresponding research, as indicated by the symbol in the bottom right corner. This demonstrates that sustainable consumption has been a trending and evolving keyword over the past few years. In Figure 6, it is depicted that sustainable consumption has reached a high saturation level, indicating that it has been extensively studied. According to Van Eck and Waltman [22], each point with a different colour in the density visualization indicates the density at that point. The more items around a point and the higher the weight of the items surrounding it, the more yellow the colour of that point [18]. It is also explained that the size of the yellow nodes can provide input and serve as an evaluation tool for researchers to re-examine the interconnections of those topics within the discipline they are studying. This helps to ensure that this literature review research becomes more focused. Furthermore, in the context of sustainable consumption, there are new keywords represented by green nodes that can be further developed and discussed in the future, such as attitude, influence, responsible consumption, sustainability-oriented market, and others.

4. CONCLUSIONS

Sustainable consumption has emerged as a hot topic, not only among society but also among governments and businesses. The increasing awareness of the public regarding the importance of environmental preservation has led companies to recognize the need to adopt sustainability practices in their business processes. The research results showcase the interconnectedness between sustainable

consumption and marketing within the years 2003-2023, resulting in 193 publications. The trends related to these topics have shown an upward pattern over the past 20 years. In fact, in the last two years (2021-2023), there has been a significant increase in research on sustainable consumption in the context of marketing, doubling the number of studies conducted.

According to Forbes [23], the number of companies recognizing the importance of environmental sustainability has increased. In fact, one of the top three sustainable companies in the world, Neste Oyj, has stated that 25% of their revenue was generated after they focused on sustainability. We believe that this represents a potential for future business trends by collaborating towards global environmental sustainability. It can also serve as a new focal point for researchers to explore and develop diverse studies on sustainability across various industries in the future. Based on the overlay visualization in Figure 5, it indicates that there are many topics that can be further developed, particularly those related to influencing consumer behaviour towards sustainable consumption. This includes exploring other approaches such as responsible consumption and sustainability in specific oriented markets.

Although this bibliometric review has provided a summary and data compilation from numerous studies, there are several limitations that should be considered as suggestions for further research. Future studies could utilize more comprehensive databases, such as Web of Science. Furthermore, it is recommended to explore other popular keywords with a deeper understanding. By surpassing these limitations, future research can offer a more profound understanding of the topic of sustainable consumption in the context of marketing and provide practical steps that can be taken by companies and society to promote more sustainable consumption behaviors.

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