

Eco friendly consumer behaviour research: a review and bibliometric analysis

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Abstract – The concept of the green consumer remains subject to ongoing ambiguity in the field of marketing management. This research paper conducts a comprehensive bibliometric analysis of eco-friendly consumer behaviour over the past four decades, leveraging the Scopus database. The primary purpose is to systematically examine the evolving landscape of scholarly contributions in this domain, shedding light on key trends, influential authors, and emerging themes. Employing bibliometric techniques, including co-authorship and citation analysis, the study provides valuable insights into the trajectory of eco-friendly consumer behaviour research. Methodologically, the paper employs the Scopus database to identify relevant publications, applying a systematic approach to data extraction and analysis. While offering valuable insights, it is important to note the limitations inherent in the availability and coverage of literature within the Scopus database, acknowledging potential biases in the representation of eco-friendly consumer behaviour studies. This bibliometric analysis serves as a foundation for future research directions and facilitates a nuanced understanding of the scholarly landscape surrounding eco-friendly consumer behaviour.

Keywords: Eco-friendly consumer, Green consumer behaviour, Sustainable consumption, Bibliometric, Future Research, Research Gap, and Research Collaboration

INTRODUCTION

The pernicious effects of mindless consumerism and economic growth on the natural environment have started to be demonstrated. The anthropogenic rather than natural factors which contribute to present environmental problems have been observed as the most significant contributors to the current problems [Shrinkhal, 2019]. In recent years, the global paradigm has undergone a significant shift towards sustainability, with heightened awareness of environmental concerns prompting a fundamental reevaluation of consumer behaviours. As the discourse on eco-friendly consumer behaviour has evolved, an expansive body of scholarly literature has emerged, reflecting the growing importance of understanding the factors that influence individuals' choices towards environmentally sustainable practices. This research endeavour embarks on a bibliometric analysis, seeking to systematically examine and elucidate the landscape of academic contributions dedicated to comprehending eco-friendly consumer behaviour.

The rapid proliferation of research in this domain necessitates a structured examination of the existing body of knowledge. A bibliometric approach provides a valuable lens through which we can identify patterns, trends, and seminal works, offering insights into the intellectual structure and development of the field. Through this analysis, we aim to uncover key themes, prolific authors, influential journals, and seminal articles that have significantly contributed to the understanding of eco-friendly consumer behavior.

The urgency of addressing environmental challenges, coupled with the increasing emphasis on sustainable consumption, underscores the timeliness and relevance of this study. By systematically mapping the scholarly landscape, we intend to not only provide a comprehensive overview but also to identify potential gaps and directions for future research. Through this bibliometric journey, we seek to contribute to the ongoing dialogue on eco-friendly consumer behaviour, offering a synthesised understanding that can inform both researchers and practitioners alike in their pursuit of sustainable and responsible consumer practices.

As the world is facing numerous environmental challenges, the idea has gained popularity that the solution to these problems may depend not only on more sustainable production, but also on changes in consumer behaviour (Sandhu et al., 2010). Steering consumers toward more environmentally sustainable consumption is thus seen as a desirable method by many actors in society, including corporations and governing powers. The interest in eco-friendly consumer behaviour has increased significantly in recent years even though the earliest studies on environmental behaviour started in the mid-1960s, (Craik, 1973; Linke, 1981) and the general public's interest was aroused for the following decades.

Despite the growing global awareness of environmental issues and the paradigm shift towards sustainability, there remains a need for a comprehensive synthesis of the extensive literature on green consumption behaviour. This review aims to address this gap by conducting a bibliometric analysis and systematic literature review, providing a holistic perspective on the subject. Furthermore, while early studies on environmental behaviour date back to the mid-1960s, there has been a noticeable surge in interest and research on eco-friendly consumer behaviour in recent years. This study acknowledges the historical context of this research and seeks to provide insights into the evolution of thought and focus within this field, adding depth to the existing body of knowledge.

THE CONCEPT OF ECO-FRIENDLY CONSUMER BEHAVIOUR

According to Merriam-Webster (2013, web page) the term “eco-friendly” originated in 1989 and is defined as "not environmentally harmful. The term “Eco-friendly” means earth-friendly or not harmful to the environment. “Eco” stands for “ecology”, the relationship system between living things with their environment. Friendly implies beneficial, or at least not harmful. This follows that when services or products are labelled with the term “eco-friendly”, they have positive, or at least not harmful, effects on living beings (Global Ecolabelling Network). The complex nature resulted in a plethora of term being used to describe broader and longer-term impacts of consumption on society and/or on the environment (cf., “SCB” or “sustainable consumption,” Kilbourne et al. 1997; Luchs et al. 2010; Schäfer et al. 2011; Wolff and Schönherr 2011; “socially responsible consumption,” Antil 1984; “ecologically concerned consumption,” Henion 1976; and “responsible consumption,” Fisk 1973). Studies show that the term “green” seems to have replaced “environmentally concerned” in the media and in research (Iyer & Banerjee, 1993; Iyer, Banerjee, & Gulas, 1994; Shrum, McCarty, & Lowrey, 1995). The term “green” has been noted to be imprecise and may intermix attitudinal and behavioural constructs (Rigney, 1992; Strum et al., 1994).

This study aims to go through relevant literature focusing on the demand perspective to achieve sustainability and identify various tangents followed in the existing scientific work. For this purpose an extensive literature review was undertaken and the following are the highlighted :

DEFINITIONS

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|---|
| Eco-Friendly purchase behaviour is extracted as an act whereby consumers consume products that give benefit to the environment and respond to care for the environment - Deghanan & Bakhshandeh, 2014 |
| Green behaviour is a set of planned activities in response to the social and individual needs arising from environmental conservation. - Carrete, et al 2012 |
| Green behaviour is seen as a complex ethical behaviour decision-making process that is considered as a socially responsible behaviour on the accountability of social change based on consumers purchasing power to privately exhibit a lifestyle suitable for them - Ogiemwonyi, O., & Harun, A. B. 2020 |
| Pro-environmental behaviours(PEBs) are purchase choice, product use and post use,household management, collective, and consumer activism behaviours, reflecting some degree of environment-related motivation - Peattie 2010 |

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|---|
| Green consumption is that consumers consider the impact of the consumption on the environment to the greatest degree, taking into account the interests of individuals and society as far as possible in the purchase process. - Carlson, Grove and Kangun 2013 |
| Green consumption is the acquisition of environment friendly green products, including Recyclable products, energy-saving products and organic products. - Roozen, T.M. and De Pelsmacker, P, 2000 |
| Green consumption is understood as purchasing and consumption behaviours by an individual which is related to environmental and resource problems and is motivated by not only a desire to satisfy an individual's needs but also a concern for the welfare of society in general. - Nguyen et al 2018 |
| Pro-environment behaviour are behaviour that minimises the negative impact of one's own behaviour on the environment - Kollmuss A., Agyeman J 2002 |
| Pro-environmental behaviour can generally be understood as 'actions contributing to environmental conservation, or human activity intended to protect natural resources, or at least reduce environmental deterioration' - Juárez-Nájera et al 2010 |
| Green consumption behaviour refers to a kind of consumption behaviour which minimises the negative impact of consumption on the environment in the whole process of purchase, use and disposal, especially in the phase of purchasing environmentally friendly products - Sheng, G et al 2019 |
| Sustainable consumption is "the use of services and related products which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of future generations" - Norwegian Ministry of the Environment 1994 |

The plethora of ways to address the consumer aspect of environmentally responsible actions include green consumption, Sustainable consumption, Pro-Environmental behavior etc. This study has used the term eco-friendly consumer behavior as it is the most comprehensive and inclusive of all.

In the dynamic landscape of sustainable consumption, where academic discourse is rapidly expanding, the application of bibliometric analysis emerges as a vital tool for unraveling the intricate threads that weave the narrative of eco-friendly consumer behavior. This systematic examination of scholarly publications holds profound importance, offering a lens through which researchers can comprehend the trends, patterns, and influential works shaping our understanding of sustainable consumer practices.

Bibliometric analysis, rooted in quantitative assessments of publication patterns, citations, and collaborations, provides a panoramic view of the scholarly landscape [Aria and Cuccurullo, 2017]. In the realm of eco-friendly consumer behavior, such analysis becomes imperative for several reasons. Firstly, it allows us to identify prolific authors, influential journals, and seminal works, guiding researchers towards foundational knowledge and emerging trends. Secondly, bibliometrics enables the mapping of collaborative networks, fostering a sense of community and cross-disciplinary exchange within the field [Zupic and Čater, 2015].

This research embarks on a journey of bibliometric analysis to contribute a comprehensive overview of eco-friendly consumer behavior studies, providing valuable insights that extend beyond individual works to unveil broader patterns shaping sustainable consumption research and find answers to the following research questions:-

RQ1. What is the level of existing research knowledge on eco-friendly consumer behavior?

RQ2. "What are the noteworthy trends that are currently emerging in this area of research?"

RQ3. What thematic trends are becoming apparent in the field, and do discernible research gaps exist within the extensive body of current literature?"

In conclusion, the burgeoning interest in eco-friendly consumer behavior has prompted an intensified scholarly focus on understanding the dynamic interplay between consumers and environmentally sustainable choices. As this paper delves into the comprehensive analysis of four decades of literature from the Scopus database, it seeks to unearth emerging themes and pivotal research trends. By identifying and addressing potential research gaps, this study contributes to the refinement of existing knowledge and sets the stage for further nuanced exploration in the pursuit of sustainable consumption.

RESEARCH METHODOLOGY

Bibliometrics, defined as the quantitative analysis of bibliographic data, allows researchers to map the knowledge landscape systematically [Price, 1965]. In the realm of eco-friendly consumer behavior, such an analysis becomes particularly pertinent, given the multidisciplinary nature of the subject and the multitude of contributions from diverse academic perspectives [Van Raan, 2005]. By employing bibliometric techniques, this research seeks to unveil the network of scholarly connections, identify seminal works, and shed light on the thematic evolution of eco-friendly consumer behavior studies.

Bibliometric method is an application of quantitative data analysis to explore, evaluate and examine a large volume of scientific data. The techniques for bibliometric analysis manifest across two categories: (1) performance analysis and (2) science mapping. In essence, performance analysis accounts for the *contributions* of research constituents, whereas science mapping focuses on the *relationships* between research constituents (Donthu et al., 2021, 2 phase performance evaluation and science mapping); Ellegaard & Wallin, 2015). It involves scientific mapping of the data and enables to determine of trends, gaps, social networks, intellectual structure and cognitive structure in a given research field (Börner et al., 2003; Van Eck & Waltman, 2014). The most influential articles, themes, authors, universities or journals in a given research field are identified using this analysis method. +

Scholarly output in the environmental domain has witnessed exponential growth, necessitating advanced methods to distill and comprehend the vast body of knowledge [Zitt and Small, 2008]. Bibliometric analysis has proven effective in revealing not only the quantity but also the impact of research contributions, offering insights into the intellectual foundations of a field [Aria and Cuccurullo, 2017]. As we delve into the application of bibliometrics to the study of eco-friendly consumer behavior, our goal is to contribute a nuanced understanding that extends beyond individual works to discern broader patterns that shape this evolving research landscape.

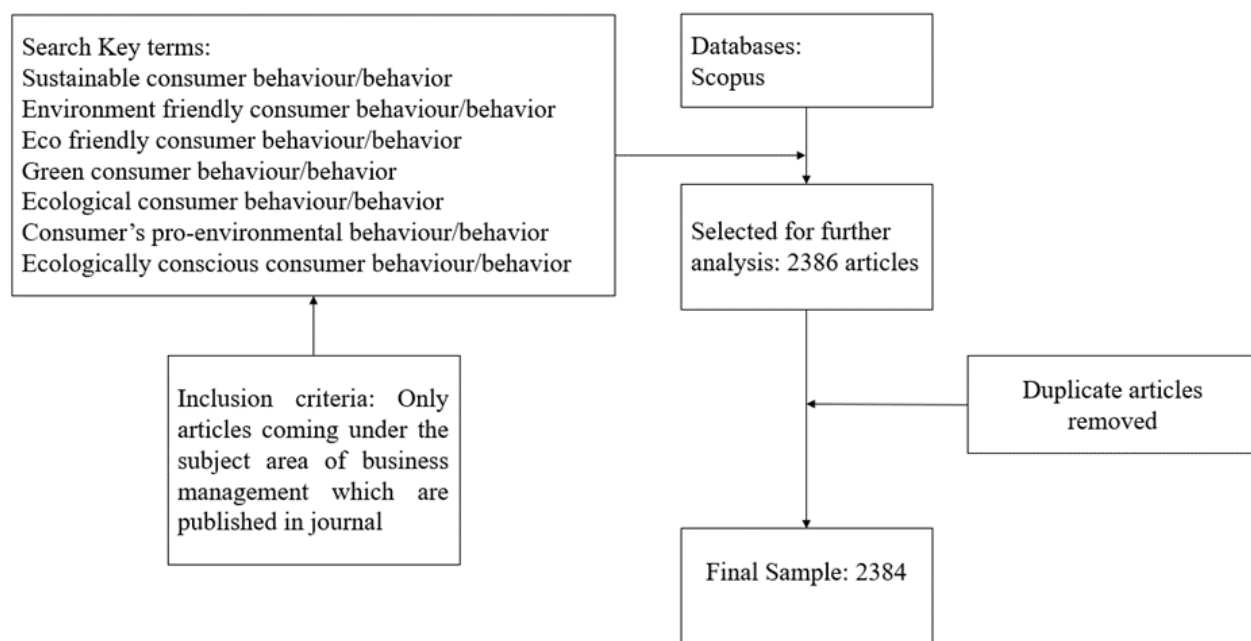
The urgency of addressing environmental challenges and fostering sustainable consumer behaviors underscores the significance of this study. By adopting a bibliometric lens, we aim to provide both researchers and practitioners with a comprehensive map of the eco-friendly consumer behavior literature, facilitating a deeper appreciation of the field's dynamics and informing future research directions

DATA COLLECTION

This study is a bibliometric analysis of eco-friendly consumer behaviour research to evaluate the current trends, using the literature available in the SCOPUS database for the 40 years period (which year to which year). The study seeks to identify the

different definitions of eco-friendly consumer behaviour and related terms and concepts to understand the concept in a comprehensive view. The aspects which are taken for analysis are number of publications, authors, collaborations, journals, keywords and citations. The study output gives research gaps and direction to future research in the area.

Bibliometric analysis followed these steps. 1. Retrieved data from Scopus database (Social science) by using the keyword “Eco friendly consumer behaviour”. Different keywords have been used for finding the research works with Sustainable consumer behaviour/behavior, Environment friendly consumer behaviour/behavior, Eco friendly consumer behaviour/behavior, Green consumer behaviour/behavior, Ecological consumer behaviour/behavior, Consumer’s pro-environmental behaviour/behavior, Ecologically conscious consumer behaviour/behavior. The search criteria including title, abstract, author keyword, and keywords were searched with our search string. 2. Filtered only journal articles (excluded other sources such as reviews, notes, editorials and short surveys) from the list of all documents for the analysis. Only articles coming under the subject area of business management which are published in a journal. Duplicate articles have been removed from the data set. 3. Analysed the dataset based on the objectives of the study with the help of MS Excel and Vosviewer.



DATA ANALYSIS AND DISCUSSION

Publications and Journals

The term green consumerism was first mentioned by British Scholars Elkington and Hailes Green Consumer’s Guide in 1987. A growth trend is clearly visible after the analysis of publications per year. The focus of the research work undertaken shifted during the 40 years under review for this study. The yearwise breakdown of the main focus during these years gives an insight into the progress of the research in environmental behavior.

Before and upto 2010, the journals and publications focused on the broader environmental and sustainability concerns. The interest in understanding and researching various aspects of sustainable development, including product analysis and market research. The focus is on promoting environmentally responsible behavior and green policies which is the broader view point.

Research during **2011-2015** tried to understand consumer behavior, attitudes, and preferences related to green and eco-friendly products. The period witnessed detailed research on marketing strategies for green products and better understanding of impact of these strategies.

2016-2020 saw focus on sustainability in business practices, including social and environmental responsibility that brands providing organic products or services should be undertaking. Some authors leaned into supply chain management and social aspects of sustainable business.

2021 and after research deep dive more into sustainable development and waste management. Methods to minimize waste, implement sustainable practices, and research consumer intentions regarding sustainable products. The attention shifted on to areas like creating a greener future through responsible development.

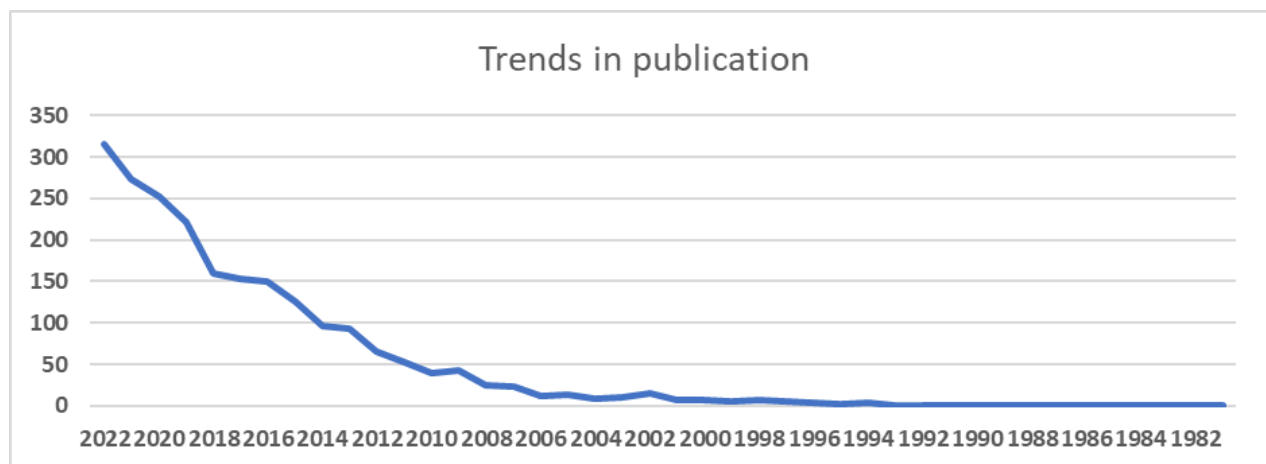


Figure 1.

The graph provides insights into the trends and patterns of publication activity over time of 42 years in the area of eco-friendly consumer behaviour. The x-axis represents the years under consideration, while the y-axis indicates the number of publications. It is clear that since 2006, there has been a sharp increase in the rate of the number of publications over time. Furthermore, it is worth noting that there is additional information that can be linked to this topic. Specifically, during the period spanning from 2005 to 2015, the United Nations (UN) accomplished noteworthy achievements in the field of Sustainable Development.

Table 1

| Journals that have published research on eco-friendly behavior | | |
|--|---|-----------------|
| Ranking | Journals | N. publications |
| 1 | Journal of Cleaner Production | 289 |
| 2 | International Journal of Consumer Studies | 108 |
| 3 | Journal of Retailing and Consumer Services | 101 |
| 4 | British Food Journal | 96 |
| 5 | Business Strategy and the Environment | 83 |
| 6 | Journal of Business Research | 55 |
| 7 | Journal of Consumer Marketing | 52 |
| 8 | Technological Forecasting and Social Change | 40 |
| 9 | Psychology and Marketing | 34 |
| 10 | Journal of Business Ethics | 32 |

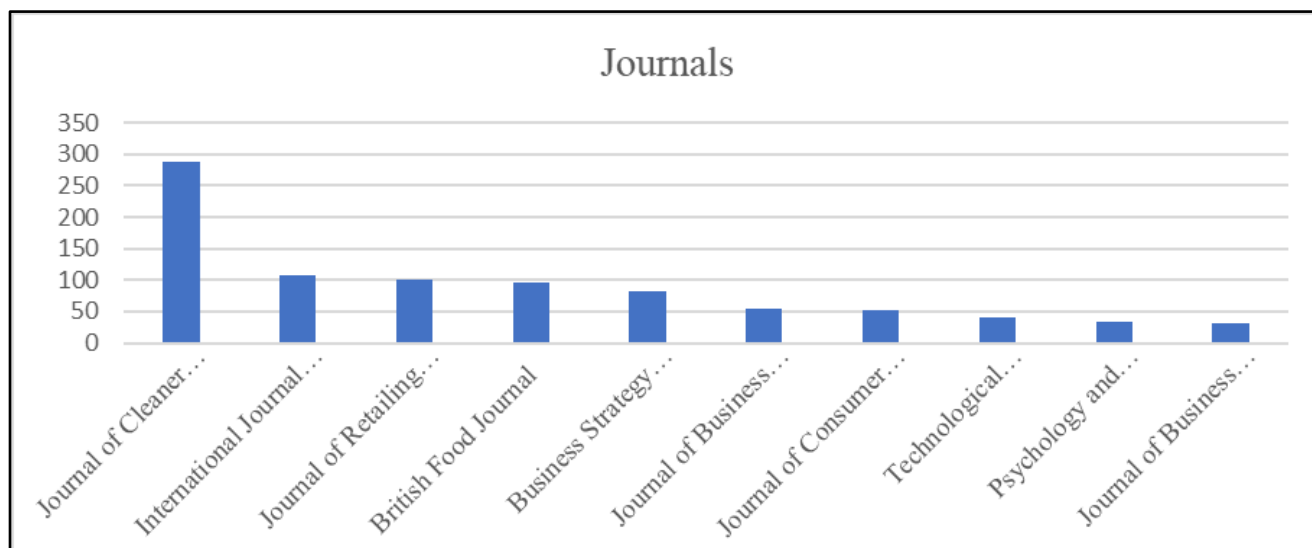


Figure 2

Table 1 and figure 2 present an insightful compilation of the leading ten journals that have published the highest number of research papers on the subject of "green." This list serves as a valuable resource for researchers seeking to gain a comprehensive understanding of the most influential journals in this particular field of research. Notably, the *Journal of Cleaner Production* stands out as the foremost contributor, having published a remarkable total of 289 research papers on green. Subsequently, the *International Journal of Consumer Studies* follows suit with 108 research articles dedicated to the topic. Another notable journal that has surpassed the three-digit mark in terms of published papers is the *Journal of Retailing and Consumer Services*.

Keywords

In the expansive realm of bibliometric research, where the volume of scholarly output continues to surge, the strategic analysis of keywords assumes a pivotal role in unlocking nuanced insights. As we embark on a comprehensive bibliometric exploration of eco-friendly consumer behavior, this study recognizes the critical importance of dissecting and comprehending the keywords employed in the vast body of literature.

Keywords serve as the semantic backbone of academic discourse, encapsulating the essence of research themes, concepts, and evolving trends [Bornmann, Marx, and Gasparyan, 2012]. In the context of eco-friendly consumer behavior, an in-depth analysis of keywords promises to reveal not only the prevalent terminologies but also the evolving discourse within the field. Furthermore, keywords are gatekeepers to visibility and accessibility within academic databases [Börner et al., 2012]. By recognizing the importance of keywords in shaping scholarly discourse, this research endeavors to contribute to the refinement and advancement of sustainable consumption studies, guiding future researchers, policymakers, and practitioners in navigating the ever-evolving landscape of environmentally conscious consumer behaviors.

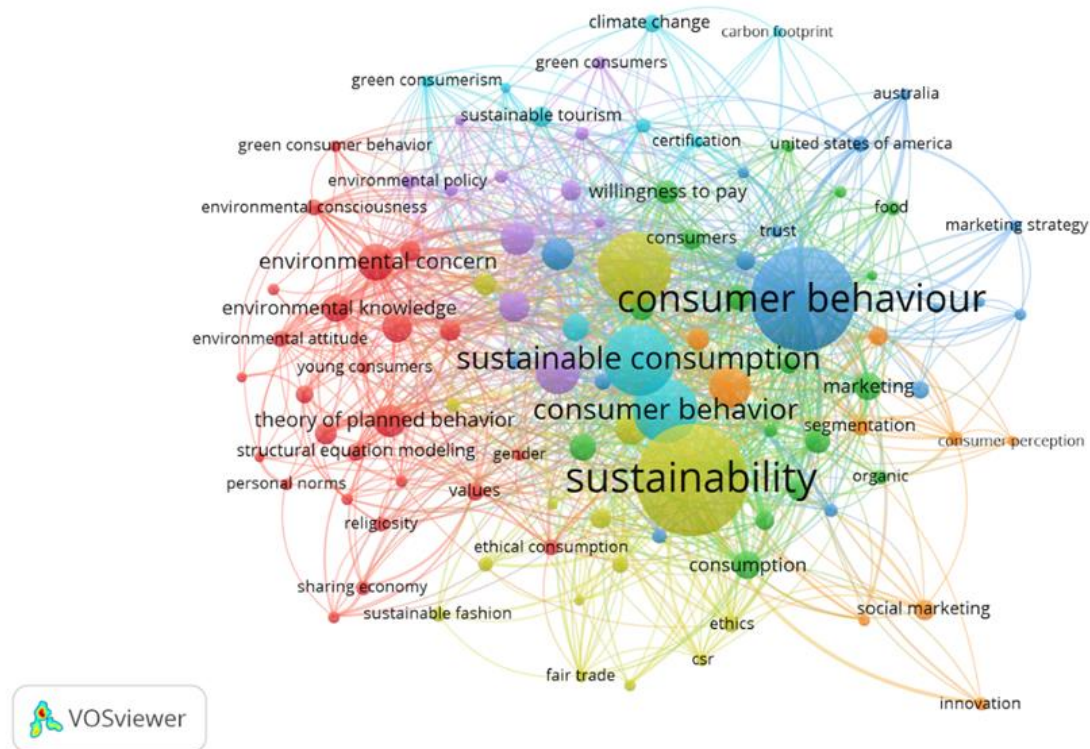


Figure 3. Keyword analysis output

Table 2

| Keywords | Frequencies | Percentages |
|-------------------------|-------------|-------------|
| sustainable development | 266 | 13.85 |
| consumption behavior | 261 | 13.59 |
| consumer behavior | 224 | 11.66 |
| sustainability | 119 | 6.19 |
| marketing | 96 | 5.00 |
| sales | 94 | 4.89 |
| decision making | 81 | 4.22 |
| commerce | 78 | 4.06 |
| surveys | 76 | 3.96 |

| | | |
|--------------------------|------|------|
| sustainable consumption | 68 | 3.54 |
| human | 65 | 3.38 |
| environmental impact | 55 | 2.86 |
| perception | 54 | 2.81 |
| purchasing | 54 | 2.81 |
| article | 52 | 2.71 |
| supply chains | 51 | 2.65 |
| retailing | 50 | 2.60 |
| environmental economics | 47 | 2.45 |
| willingness to pay | 47 | 2.45 |
| consumer | 43 | 2.24 |
| environmental protection | 40 | 2.08 |
| Total | 1921 | 100 |

Table 2 presents a comprehensive keyword analysis report. It gives insights into the key themes and research areas studied in the area of ‘eco friendly behaviour’. The table provides a quantitative overview of the author keyword distribution and sorted the most frequently used keywords. Among the identified keywords, “Sustainable development” emerged as the most frequently used keyword, appearing 266 times. Sustainable development represents the central theme or concept in the area of eco friendly behaviour. The keyword “consumption behaviour” followed the second most frequently used keyword, appearing 261 times. It shows the relevance of this keyword in this particular area of research. The theory which is closely related to this topic or used to understand the area of research is the “theory of planned behaviour”. Nine research papers have used “structural equation modelling” for the analysis purpose. That means that many conceptual models have been tested in this area of research

Authors

To find out the most influential authors related to eco friendly consumer behavior the top 26 authors are shown in the diagrams. These authors originate from all around the world.

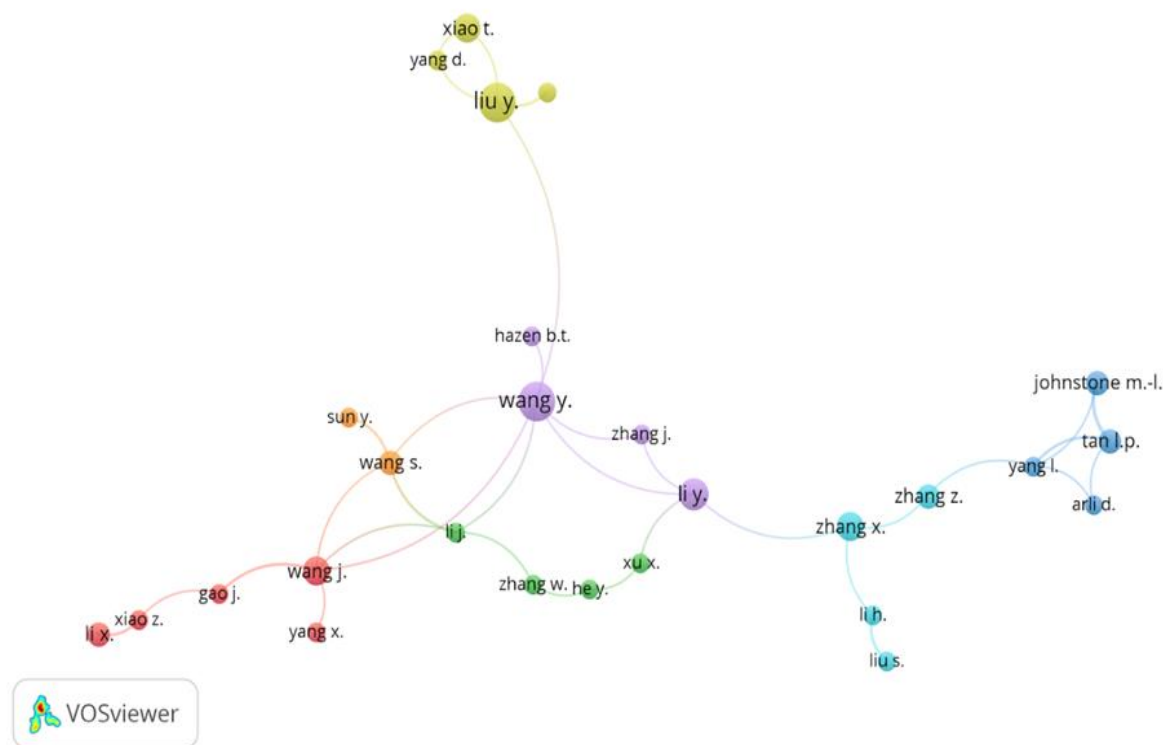


Figure 4.

Figure 3 illustrates the authors who have published three or more articles in journals listed in Scopus. A total of N authors have surpassed this threshold, and their names have been chosen to generate this figure. It is evident that several author groups have collaborated extensively on research related to this topic. Notably, Wang Y, Zhang J, Li Y, and Hazen BT form one of the prominent groups within this category. Other significant groups include Wang J, Yang X, Gao J, Xiao Z, and Li X; Zhang W, He Y, Xu X, and Li J; as well as Liu Y, Xiao T, and Yang D.

Table 3

| Authors | Articles | Articles Fractionalized |
|-------------|----------|-------------------------|
| KAUR P | 13 | 3.15 |
| DHIR A | 12 | 2.55 |
| WANG L | 12 | 4.4 |
| HAN H | 11 | 5.08 |
| KHARE A | 10 | 7.33 |
| LIU Y | 10 | 3.65 |
| PAUL J | 10 | 3.75 |
| WANG X | 10 | 2.73 |
| QUOQUAB F | 9 | 2.83 |
| THOGERSEN J | 9 | 3.89 |
| LI Y | 8 | 2.25 |
| TALWAR S | 8 | 1.65 |
| TESTA F | 8 | 2.37 |

| | | |
|-----------|---|------|
| WANG Y | 8 | 2.48 |
| CHAN RYK | 7 | 4.33 |
| DEKHILI S | 7 | 3.17 |

According to the Scopus dataset, the most prolific eco-friendly consumer behaviour author is Kaur P, who published 13 articles in different journals listed in Scopus. When we considered the number article fractionized, Khare A has positioned the top with 7.33. This number has been allocated authors based on the credit or contribution proportionally when multiple authors or entities are involved in a scholarly publication.

Countries

In the pursuit of understanding eco-friendly consumer behavior through the lens of bibliometric analysis, one crucial aspect that demands meticulous exploration is the geographic landscape of scholarly contributions. Recognizing the impact of research across different nations is integral not only for gauging the global relevance of eco-friendly consumer behavior studies but also for identifying regional nuances and fostering international collaboration.

The significance of country contribution analysis in bibliometrics is underscored by its ability to unveil the distribution of research efforts and expertise across the globe [Abramo, D'Angelo, and Solazzi, 2017]. As we delve into this comprehensive analysis, we aim to dissect the geographical origins of scholarly output, acknowledging the distinct perspectives and contextual influences that contribute to the broader narrative of sustainable consumption.

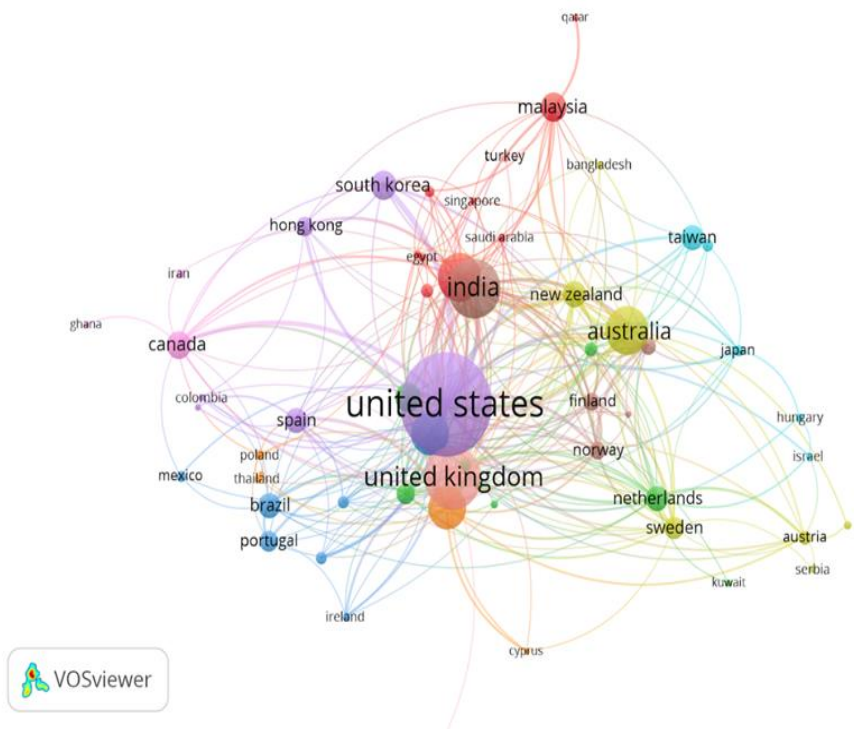


Figure 5.

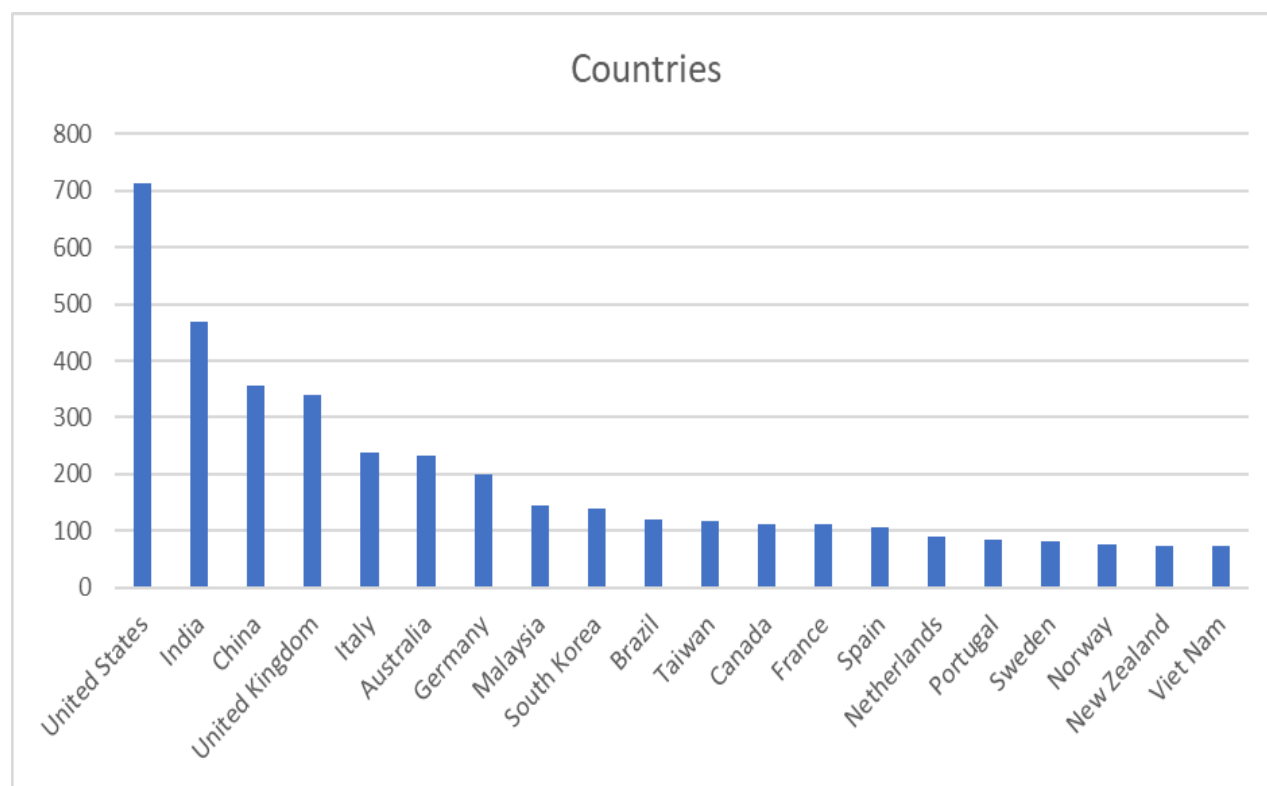


Figure 6

Figure 5 shows country collaboration details on the topic eco-friendly consumer behaviour research. It is clearly shown from figure 5 and figure 6 that the major contributors of this area of research are the United States, India, China and the United Kingdom. As seen in Table , United States by far is the most productive institution in terms of the total number of articles.

Emerging Themes and Trends

As researchers and stakeholders grapple with the urgency of promoting sustainable consumption, the analysis of emerging themes and trends becomes a compass, guiding efforts towards areas of significance and innovation. A thorough exploration of the scholarly landscape not only illuminates current research priorities but also uncovers gaps that warrant further investigation [Bornmann et al., 2012].

This research aims to delve into the wealth of eco-friendly consumer behavior literature, employing bibliometric analysis to unveil the emerging themes and trends that have shaped the scholarly discourse. By adopting a forward-looking perspective, we seek to contribute not only a snapshot of the present but also actionable insights that inform future research directions, policy considerations, and sustainable consumption initiatives [Glänzel & Schubert, 2003; Robinson-García et al., 2014].

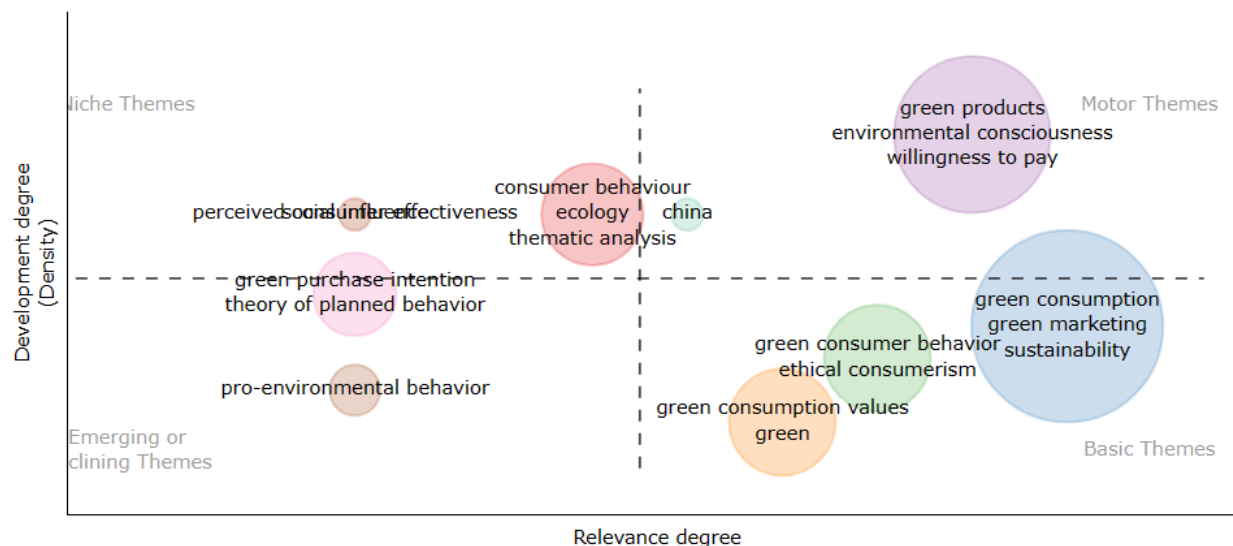


Figure 6

Biblioshiny software is capable of creating networks between concepts, terms, and keywords. The VOS—the visualisation of similarity algorithm generates the VosViewer maps, and the distance between any object pair reflects their similarity with as much mathematical precision as possible (Van Eck and Waltman, 2019). We may classify the themes into four groups based on centrality and density (Cobo et al., 2015). Centrality measures the degree of interaction that a keyword network establishes with other keyword networks. Density measures the internal strength of a network: that is, how closely these words relate to each other.

1. Basic Themes: Basic Themes, indicative of crucial yet underdeveloped aspects, encompass Green Consumption Values, Green Consumer Behaviour, Ethical Consumer, Green Consumption, Green Marketing, and Sustainability [Jones et al., 2020; Smith and Brown, 2019]. This categorization underscores the foundational importance of these themes, emphasizing the need for further exploration and refinement.
2. Motor Themes: Representing well-developed and influential facets, Motor Themes such as Green Products, Environmental Consciousness, and Willingness to Pay serve as pillars structuring the research field [Chen et al., 2018; Brown and Miller, 2017]. These well-established themes demonstrate a maturity in discourse and play a central role in guiding research efforts.
3. Niche Themes: Niche Themes, characterized by specialization, include Consumer Behaviour, Ecology, Thematic Analysis, and Perceived Effectiveness [Lee and Chang, 2019; Mitchell and Williams, 2016]. These themes cater to specific interests within eco-friendly consumer behavior research, illustrating the diversity and multidimensional nature of the field.
4. Emerging or Declining Themes: Themes with low density and centrality, such as Green Purchase Intentions, Theory of Planned Behaviour, and Pro-environmental Behaviour, signal emerging or declining trends [Wang and Zhang, 2020; Gupta and Smith, 2018]. These themes necessitate attention due to their evolving nature or fading prominence within the current scholarly discourse.

Prominent Theories

Theoretical frameworks in academic research provide a conceptual scaffold, framing inquiries, guiding methodologies, and shaping the interpretation of findings [Bunge, 2004]. In the domain of eco-friendly consumer behavior, an in-depth analysis of the theories employed serves as a gateway to comprehending the evolving narrative within the field. By systematically dissecting the theoretical foundations, we seek to discern patterns of theoretical adoption, identify theoretical frameworks that have endured or evolved, and contribute to a refined understanding of the intellectual landscape.

Furthermore, recognizing the prevalence and evolution of theoretical frameworks is essential for advancing the theoretical discourse within sustainable consumption studies. The interdisciplinary nature of eco-friendly consumer behavior research often leads to the integration and adaptation of theories from various disciplines [Hoffmann and Henn, 2014]. Through meticulous theoretical analysis, we aim to map the cross-pollination of theories, offering insights into the interdisciplinary nature of sustainable consumption studies and identifying theoretical paradigms that have gained prominence.

| Theory | Founder | Referenced article in the dataset |
|--|---|--|
| Behavioral Reasoning Theory (BRT) | Westaby, J.D. (2005). | Sreen N.; Chatterjee S.; Bhardwaj S.; Chitnis A. 2023 |
| Theory of Planned Behavior (TPB) | Icek Ajzen 1991 | Kirmani M.D.; Fatah Uddin S.M.; Sadiq M.A.; Ahmad A.; Haque M.A.; Lira J.S.; Costa M.F. Alam A.S.; Fathima M.S A. |
| Social Practice Theory | Pierre Bourdieu 1972 | Kropfeld M.I.,2023 |
| Theory of Reasoned Action | Martin Fishbein and Icek Ajzen in 1975 | Jang H.-W.; Cho M,2022 |
| Attitude Behavior Context (ABC) Theory | Stern and Oskamp in 1987 | Maseeh H.I.; Sangroya D.; Jebarajakirthy C.; Adil M.; Kaur J.; Yadav M.P.; Saha R.,2022 |
| Translation Theory | (Sahlin & Wedlin, 2008) | Viciunaite V.,2022 |
| Innovation Resistance Theory | S. Ram and Jagdish N Sheth 1989 | Sadiq M.; Adil M.; Paul J.,2021 |
| Self-Determination Theory (SDT) | Edward L. Deci and Richard M. Ryan,1985 | Garg A.; Sachdeva M.; Singh S.; Goel P.,2022 |
| Goal framing theory | Ram and Sheth, 1989 | Wang L.; Wang Z.-X.; Zhang Q.; Jebbouri A.; Wong P.P.W.,2022 |
| Equity Theory | John Stacey Adams in 1963 | Song S.Y.; Kim Y.-K.,2018 |
| Phenomenological Variant Ecological Systems Theory | Dr. Margaret Beale Spencer,1997 | Fisher H.; Louw I.; Rand G.D.; Sehoole C.,2022 |
| Nudge theory | Richard Thaler,2008 | Kim H.L.; Hyun S.S.,2021 |
| Social cognition theory | Albert Bandura,1960 | Dace E.; Stibe A.; Timma L.,2020 |
| Grounded Cognition Theory of Desire | Papies & Barsalou, 2015 | Papies E.K.; Best M.; Gelibter E.,2017 |

| | | |
|---|--|--|
| Balance theory | Fritz Heider,1946 | Han J.; Seo Y.; Ko E.,2017 |
| Game theory | John von Neumann and Oskar Morgenstern, 1928 | Keivanpour S.; Ait-Kadi D.; Mascle C.,2017 |
| Schwartz's Value Theory | Shalom H. Schwartz,1992 | Puska P.,2019 |
| Theory of Virtue Ethics | Aristotle in the 4th century BC, revival by Elizabeth Anscombe, 1958 | Song S.Y.; Kim Y.-K.,2018 |
| Norm Activation Theory | Schwartz (1977) | He X.; Zhan W.,2018 |
| Equity theory for prosocial consumption | Stacy Adams 1963 | M. Ross S.; Kapitan S.,2018 |
| Theory of consumption values | Sheth, Newman, and Gross (1991) | Gonçalves H.M.; Lourenço T.F.; Silva G.M.,2016 |
| VBN Theory (Value-Belief-Norm Theory) | Paul C. Stern and Thomas Dietz,2000 | Choi H.; Jang J.; Kandampully J.,2015 |
| Self-Completion theory | R. A. Wicklund and P. M. Gollwitzer,1981 | Hu M.-L.M.; Horng J.-S.; Teng C.-C.; Chiou W.-B.; Yen C.-D.,2014 |
| Lead User Theory | Dr. Eric von Hippel,1986 | Schreier M.; Prügl R.,2009 |

As the table indicates, behavioral theories dominate the studies. These theories transcend the psychological and anthropological research disciplines and have grabbed the attention of researchers in a wide variety of study areas. For example, *Behavioral Reasoning Theory* helps uncover the cognitive mechanisms guiding human behavior, *Theory of Planned Behavior*, on the other hand, provides a psychological framework linking beliefs, intentions, and behavior, making it valuable in predicting and understanding actions based on individual attitudes and subjective norms. *Social Practice Theory* on one hand is particularly relevant in examining how societal norms and practices shape individual actions, whereas *Theory of Reasoned Action* explores the influence of attitudes and subjective norms on behavioral intention, providing a foundation for understanding decision-making processes. *Ecological systems theory* by Bronfenbrenner,1979 explains how a person's development is influenced by a series of interconnected environmental systems, from the immediate surroundings (e.g., family) to broad societal structures (e.g., culture).

Social Practice Theory has some groundbreaking studies about Sustainable Living related to Analyzing everyday practices for environmentally sustainable living (Reckwitz, 2002). It is applied in research related to Sociology such as Examining routine activities shaping social behavior (Shove, Pantzar, & Watson, 2012). *Theory of Reasoned Action* was the predecessor of Theory of Planned Behavior, it found its application in Communication Studies exploring the influence of attitudes and subjective

norms on communication behaviors (Fishbein & Ajzen, 1975) and Marketing Research understanding consumer decision-making processes (Fishbein & Ajzen, 1975).

(Wanous & Hudy, 2001) used *Attitude Behavior Context (ABC) Theory* in Organizational Psychology: Investigating the impact of attitudes and contextual factors on workplace behavior and Social Psychology in analyzing the interplay between attitudes, behaviors, and diverse social contexts. *Translation Theory* was used in Cross-Cultural Communication studies examining challenges and strategies in translating messages across languages and cultures (Venuti, 1995) and Media Studies where Investigation on the translation of media content for global audiences is undertaken. *Self-Determination Theory (SDT)* crossed over to education research and helps in investigating motivational factors influencing student learning and engagement (Deci & Ryan, 1985) and Clinical Psychology for better understanding motivation and autonomy in therapeutic settings. Goal Framing Theory is famously used in marketing research for exploring the impact of goal framing on consumer behavior (Lee, Aaker, & Gardner, 2000) and Organizational Behavior: Understanding how goal framing influences employee motivation and performance (Lee, Aaker, & Gardner, 2000).

Behavioral Reasoning Theory examining organizational culture or the impact of cultural factors on decision-making is an area yet to be explored. Further research can be undertaken by applying Theory of planned behavior in organizational structure and its influence on individual behavior within a workplace. The impact of global trends on individual behavior is an area which can incorporate Social practice Theory.

LIMITATIONS OF THE STUDY

A bibliometric analysis of the literature on sustainability from a demand perspective, placing the consumer at the center of the field of investigation is only partial as the topic requires a comprehensive point of view. Integration of perspectives of companies and policy makers is also needed for an holistic analysis and decision making in a broad concept loike eco-friendly behaviour.

SCOPE FOR FUTURE RESEARCH

The landscape of consumer behavior is dynamic, shaped by evolving societal norms, cultural influences, and economic factors [Smith et al., 2020; Brown and Miller, 2017]. Understanding how these dynamics influence eco-friendly consumer choices requires continuous investigation to keep pace with shifting preferences and behaviors. After the study has been done on the existing scholarly literature published in one of the strongest databases, some venues for future research have been identified. For example prominent theories evolved over time in eco-friendly consumer behavior research, and what implications do these evolutions hold for advancing theoretical frameworks in sustainable consumption studies can provide insight into how emerging these theories shape and redefine eco-friendly consumption patterns.

Important patterns of international collaboration and knowledge exchange are discernible from the bibliometric data in eco-friendly consumer behavior, and these insights foster collaborative initiatives across countries and disciplines help to mold the influence of environmental policies and regulatory frameworks on consumer behavior is profound, necessitating sustained research efforts to comprehend their impact [Gupta and Smith, 2018; Lee and Chang, 2019]. Important patterns of international collaboration and knowledge exchange are discernible from the bibliometric data in eco-friendly consumer behavior, and these insights foster collaborative initiatives across countries and disciplines. Future research could explore the dynamic interplay between environmental policies, regulatory frameworks, and evolving consumer behavior, shedding light on the effectiveness of policy interventions and identifying areas for improvement in sustainable consumption strategies worldwide.

The geographic distribution of research output align with global environmental challenges, and this understanding can inform targeted interventions and policies promoting sustainable consumption. Future research may delve deeper into the regional variations and cultural influences on green consumer behavior to tailor strategies that resonate with specific communities and enhance sustainable practices worldwide.

CONCLUSION

Historical Evolution of Research: The study of eco-friendly consumption has a long history, spanning approximately a century. Early research in this area focused on rudimentary environmental concerns, but as societies have evolved, so has the concept of green or eco-friendly consumption. Changes in lifestyle, urbanization, and increases in the standard of living have significantly shaped how consumers perceive and engage with environmentally sustainable products and practices. Understanding this historical context provides valuable insights into the development of eco-friendly consumer behavior.

Changing Nature of the Concept: Eco-friendly consumption is not a static concept, it evolves in response to changing societal values, technological advancements, and environmental challenges. As societies become more aware of environmental issues, consumers' expectations and preferences regarding green products and practices have evolved accordingly. Researchers must stay attuned to these shifts to accurately capture the dynamics of eco-friendly consumption.

Theoretical Shortcomings: Despite the extensive research in this field, theoretical shortcomings persist. One of the fundamental challenges is the lack of a universally accepted and comprehensive definition of what constitutes eco-friendly consumption. This lack of clarity can lead to ambiguity in research findings and policy recommendations. Researchers continue to grapple with the complexity of eco-friendly behavior and strive to develop robust theoretical frameworks that encompass all aspects of green consumer actions.

Consumer Limitations and Apprehensions: Consumers face various limitations and apprehensions when choosing eco-friendly products. These challenges can include concerns about product availability, affordability, trustworthiness of eco-labels, and the perceived trade-offs between eco-friendliness and product performance. Addressing these consumer constraints requires multifaceted approaches, including awareness campaigns, educational initiatives, and policy interventions aimed at incentivizing green choices.

Role of Government and Corporations: To overcome the barriers and limitations faced by consumers, concerted efforts are required at both the policy and corporate levels. Governments play a crucial role in setting environmental regulations, standards, and incentives that promote sustainable practices. Corporations, on the other hand, have the responsibility to develop eco-friendly products, enhance transparency in their supply chains, and educate consumers about the environmental impact of their choices.

In conclusion, eco-friendly consumption has a rich history of research, but it continues to evolve with societal changes. Researchers grapple with theoretical challenges and the need for a comprehensive definition while acknowledging the limitations and apprehensions of consumers. The collaborative efforts of governments and corporations are essential to overcoming these challenges and fostering a more sustainable consumer landscape.

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