

Traversing through Consumer Buying Behaviour Landscape: A Bibliometric Analysis using OpenAlex Database

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ABSTRACT

This study aims to track the growth and development of consumer buying behaviour research from 1958 to 2024 using bibliometric analysis. To do so, the paper analyses the increase in the volume of publications, highlights the trending topics, identifies major contributors, and recognises prominent subthemes of the consumer buying behaviour research landscape. The dataset for the bibliometric analysis is extracted from OpenAlex, which is an open-source bibliographic database. After the filtration, the study selects 4,795 research articles for analysis. The study uses VOSviewer to carry out the bibliometric coupling analysis and the R package known as Bibliometrix for descriptive analysis. The findings from the analysis reveal that there has been a surge in the production of consumer buying behaviour research from the year 2000, peaking in the year 2021. Some of the most frequently mentioned terms include “consumer shopping behaviour,” “compulsive buying,” and “impulsive buying”. Moreover, apart from the identification of prominent contributors, the study highlights four major subthemes that are Social impact on Buying Behaviour, Impulsive Buying Behaviour, Compulsive Buying Behaviour and Panic Buying Behaviour. The study takes into account the difference between purchase intention and buying behaviour and therefore exclusively focuses on research articles specifically discussing the buying behaviour of consumers segregating it from the pool of consumer behaviour research. Moreover, the study uses OpenAlex, which to the knowledge of the authors, has not been used as a database for bibliometric analysis of consumer behaviour research to date.

Keywords: Bibliometric Analysis, Bibliometric Coupling Analysis, Consumer Buying Behaviour, OpenAlex, VOSviewer, Bibliometrix

1: INTRODUCTION

Consumer Buying Behaviour: A crucial area of study in marketing research

To be able to identify what behavioural factors makes an individual purchase a commodity solves a huge part of the marketing problem. This is exactly why the study of consumer buying behaviour has been a matter of utmost relevance for businesses and marketing researchers all around the world. In the words of Kotler (2000), “Consumer behaviour is the study of how people buy, what they buy, when they buy and why they buy”. Simply put, consumer buying behaviour is how people decide what to buy. For brands, sellers, marketers, and researchers, the question of “how do people decide what to buy?” requires an answer. The answer to this question holds the key to the formulation of effective marketing strategies,

attracting customers, building brand image, and attaining the trust of customers, thus driving the brand towards the ultimate corporate objective of profit maximisation. Due to this reason, the concept of consumer buying behaviour has been an integral part of the marketing research framework for a long time. Apart from being an essential component of marketing research, the multidisciplinary nature of consumer buying behaviour makes it compatible with literature covering fields like psychology, sociology, economics, anthropology, neuroscience and various other extensions of social science research (Mullen and Johnson, 2013; MacInnis and Folkes, 2010; Deaton and Muellbauer, 1980; Tadajewski and Wagner-Tsukamoto, 2006; Di Stasi *et al.*, 2018). This implies that consumer behaviour research can absorb insights from various sources of literature other than the marketing field, making it a diverse and ever-growing field of study.

So far, it is clear that the study of consumer buying behaviour involves the understanding of factors that explains the action of purchase by an individual. How a brand's marketing efforts translate into influencing the consumer's behaviour is the concern of consumer behaviour research. However, it is not as easy as it seems to study and understand consumer buying behaviour. Every individual has a unique and complex set of personality traits driven by various internal and external stimuli. Research suggests that a wide spectrum of factors apart from the marketing efforts of brands including emotions, demographics, personality, and even the time available for making purchase decisions tend to have a significant effect on the buying behaviour of consumers (Hornik and Zakay, 1996; Hervé and Mullet, 2009; Fraj and MartíNez, 2006; Bigné *et al.*, 2005). Thus, understanding this complex nature of human behaviour is supposedly a challenging task for brands, marketers and researchers all around (Orji, 2013). Though consumer behaviour research is a challenging endeavour, the existing literature that extends to decades of literary efforts provides a foundation for future researchers to build upon. Therefore, the purpose of this study is to shed light on the existing literature encompassing the consumer buying behaviour landscape.

Objective and Rationale of the Study

From the use of utility concepts of behavioural economics in the 19th century to the integration of technology in the present time, consumer buying behaviour research has been ever evolving. The growth and development of consumer behaviour research is evident from the immense literature that spans through decades of academic aspirations. Another crucial characteristic of consumer buying behaviour research is its multidisciplinary nature. Since the literature extends to a large variety of fields, it becomes a matter of great importance that these sources are presented using a detailed bibliometric analysis. Bibliometric analysis is a research method utilised to carry out quantitative analysis of academic literature. The technique can be used to generate insights pertaining to relevant works in the field, evolution of trends in the literature, leading groups contributing to the growth and development in a certain field, etc. By using the technique of bibliometric analysis, the study will delve into the growth and development of consumer buying behaviour research carried out throughout the years.

With the help of bibliometric analysis, the study fulfils the following objectives: (1.) Study the evolution of consumer buying behaviour research over the decades. (2.) Highlighting commonly used keywords to ascertain recent trends in the field of consumer buying behaviour research. (3.) Analysis of relevant papers, authors, countries, and institutions that contribute to the discipline. (4.) Identification of prominent subthemes pertaining to consumer buying behaviour research.

The study involves the use of analytical tools namely VOSviewer and the Bibliometrix package to carry out the bibliometric analysis. An open-source database known as OpenAlex is used to extract metadata of scholarly literature for bibliometric analysis. The findings derived from this study will guide future

researchers from various fields in the identification of relevant literary sources, contributors, keywords and sub-fields of the subthemes of consumer buying behaviour research thus encouraging them to find research gaps for future studies.

02: LITERATURE REVIEW

Defining Consumer Buying Behaviour

At this point, the accumulation of academic literature on consumer buying behaviour extends over a lengthy timeline. During this period, many authors in their works have defined the concept of consumer buying behaviour. Some of the insightful definitions by researchers and academicians are discussed further. In the words of Kotler and Armstrong, (2018) “Consumer buyer behaviour refers to the buying behaviour of final consumers—individuals and households that buy goods and services for personal consumption”. The statement helps in developing an understanding of the consumer and its characteristics. On the other hand, Martin and Morich (2011) define consumer buying behaviour as the actions exhibited by consumers at the time of searching, purchasing, using evaluating and discarding of products and services that they believe will satisfy their needs. The definition provides the reader with a clear process of the buying behaviour of the consumer. According to Solomón (1993), consumer buying behaviour examines how individuals or groups acquire, keep, or discard products, services, and experiences to satisfy their needs. This definition inclines towards consumer behaviour as an analysis of behaviour rather than the occurrence of the behaviour itself. These definitions when combined, presents a clear view of what consumer buying behaviour is. Thus, consumer buying behaviour research can be defined as *the study of the process that a consumer goes through to acquire and consume a commodity to satisfy his needs*.

Evolution and trends in consumer behaviour research

The study of consumer behaviour has its roots back in the 19th century where the classical economists proposed the theory of utility (Moscati, 2021). The objective of utility theory was to determine the consumption patterns of an individual. Concepts like total utility, and marginal utility were defined to represent the changes in the level of utility derived after every unit of consumption (Moscati, 2021). This indicates the role of behavioural economics in shaping the concept of consumer behaviour at its initial stages.

During the 20th century, integration of consumer buying behaviour research with various disciplines such as psychology took place. In 1903 an American psychologist Walter Dill Scott in his book titled “The Theory of Advertising”, talked about the psychological principles that work behind consumer behaviour and how they can be used for improving advertising effectiveness thus implying the amalgamation of psychology in the study of consumer behaviour (W. D. Scott, 1903). During this period, the development of contemporary consumer behaviour models brought further clarification to the behavioural aspects of consumers (Tešić and Bogetić, 2022). In addition, the 1930s was the decade when marketing emerged as a discipline that led to an increase in the study of consumer buying behaviour among researchers and academicians (V. Kumar, 2015). The rise in attention to marketing and its sub components lead to further development of topics such as consumer buying behaviour. During the 1950s, a shift of approach in the field of psychology termed as the cognitive revolution took place. Before the cognitive revolution, studies mostly focused on the behavioural aspects of the individual or groups under observation. However, the era of the cognitive revolution suggested that attention should be directed towards the mental actions that influence behaviour (Miller, 2003). The cognitive revolution brought along with it a holistic perspective to the study of consumer buying behaviour by shifting the focus from behaviour to what causes the

behaviour (Derbaix and Vanden Abeele, 1985). The 1980s and 1990s were the decades where advancement of computers lead to the integration of computing technology in numerous fields and consumer buying behaviour research was no exception (A. H. Ahmad *et al.*, 2020). The development of quantitative research methods helped in deriving precise findings thus revolutionising consumer behaviour research.

The 21st century continued with the digital revolution along with the widespread adoption of internet. Integration of the Internet with marketing led to the emergence of concepts such as e-commerce, digital marketing, and online consumer behaviour (A. H. Ahmad *et al.*, 2020). Moreover, the 21st century witnessed the advent of the field called Neuromarketing, which is a blend of neuroscience and marketing (Cenizo, 2022). This field is concerned with monitoring the brain activities, psychological responses and cognitive processes to understand the consumer behaviour thus enhancing the marketing strategy (Smidts, 2002). Growing concern for the environment is also influencing consumer behaviour research. Concepts such as sustainability, ethical consumption, and green consumer behaviour research look into the ethical and environmental aspects of consumer decision-making (Brinkmann, 2004; Ölander and Thøgersen, 1995; Fraj and MartíNez, 2006). One of the biggest turning point in the history of humankind that took place during the 21st century was the COVID-19 pandemic. The phenomena of group panic buying behaviour during the COVID-19 pandemic also received attention from the researchers all around the world (Chen *et al.*, 2022).

Key theories, models, and techniques

Being a diverse area of study, consumer buying behaviour utilises a variety of models, theories and techniques to justify a hypothesis and derive conclusions. This section of the review will discuss such commonly adapted approaches in consumer buying behaviour research.

With the growing involvement of digital means like computers and mobile devices in daily lives along with their integration into marketing practices, researchers have been utilising the technology acceptance model to ascertain the level of acceptance and adoption of a certain technology among consumers (Biswas, 2016; Sharma and Bhatt, 2018; Azizah *et al.*, 2022). The technology acceptance model measures two factors namely “perceived usefulness” and “perceived ease of use” to determine the intention of an individual to adapt and use a new form of technology (Davis *et al.*, 1989).

Understanding human behaviour in itself is a demanding aspiration (Ajzen, 1991). When it comes to marketing and consumer behaviour research, the Theory of Planned Behaviour is one of the models that is generally accepted and utilised among academicians to understand the factors that influence the consumer decision-making process (Sahni, 1994). According to the Theory of Planned Behaviour attitude, subjective norms and perceived behavioural control influence intentions that drive a certain behaviour (Ajzen, 1991).

Environmental stimuli play an integral part in influencing the behaviour of an individual or a group. The Stimulus Organism Response (SOR) Model provides a systematic framework to understand how a subject responds to the stimulus when exposed to it (Zajonc, 1968). In marketing and research encompassing consumer buying behaviour, the SOR model is used to study the effect of stimulus presented by the brands to customers through their marketing strategies, social media, green practices, etc., on the response, which is the buying behaviour (Hashmi *et al.*, 2019; Sohaib *et al.*, 2022; Hameed *et al.*, 2021).

Another model that studies behavioural intentions is Fishbein's Behavioural Intention Model. The model is used to predict intention that leads to performing a specific behaviour (Page and Cole, 1985). Marketing researchers use the Behavioural Intention Model to study factors such as customer relationships, culture, sustainability efforts, and shopping values that influence the behavioural intentions of consumers (De

Cannière *et al.*, 2009; Jung *et al.*, 2020; Lim, 2016).

Structure equation modelling is another widely accepted research technique that is used to establish relationship among multiple variables. SEM is a combination of techniques including factor analysis, multiple regression and path analysis, which allows the researcher to not only analyse observed variables but latent variables as well (Lei and Wu, 2007). It is a widely adapted technique among marketing researchers where, influence of a factor or multiple factors on consumer buying behaviour is to be studied. The effect of factors such as marketing strategies, green marketing, demographics, education level, website design, and content on the behavioural aspects of consumers such as impulsiveness, purchase intention, and buying behaviour has been studied in numerous literature using structural equation modelling (Shabbir *et al.*, 2020; Eid and El-Gohary, 2013; AlQeisi *et al.*, 2014; Mathew and Soliman, 2020; Park *et al.*, 2006).

Many marketing researchers and academicians have approached the theme of consumer behaviour through the means of systematic literature review along with the process of bibliometric analysis. By using the technique of systematic literature review, points have been made about themes of impulsiveness, social media, sustainable products, and many other key factors that are evidently known to influence consumer buying behaviour (Abdelsalam *et al.*, 2020; Budiyanto *et al.*, 2022; Busalim *et al.*, 2022). On the other hand, many studies that make use of bibliometric analysis to compile and quantify the data from existing literature have inclined their focus towards topics like sustainability, the impact of COVID-19, and Artificial Intelligence (Hael *et al.*, 2024; Cruz-Cárdenas *et al.*, 2021; Kar, 2024).

Identification of Research Gap

The aforementioned works of systematic literature review and bibliometric analysis provides us with a somewhat clear picture pertaining to the state of consumer behaviour research. However, in some cases, researchers have reported certain level of discrepancies between the intention and the action of the consumer (Fraj and MartíNez, 2006; McDonald and Alpert, 2001; Carrington *et al.*, 2010). The difference between intentions and actions of the consumer can be translated into the difference between consumer behaviour and consumer buying behaviour thus splitting the realms of consumer behaviour and consumer buying behaviour research. Taking this into perspective, there is an abundance of literary works that provide us with a systematic review and bibliometric insights in the field of consumer behaviour research, yet the quantity of works reviewing consumer buying behaviour exclusively is limited. Therefore, to address this gap, this study will carry out a bibliometric analysis of literary works that exclusively study consumer buying behaviour. By doing so, the study aims to generate insights about the growth, development, prominent contributors, and trends pertaining to the consumer buying behaviour research paradigm.

3: RESEARCH METHODOLOGY

The study aims to understand the growth and development of the consumer buying behaviour research landscape over the years. To do so, the study utilises the technique of bibliometric analysis to draw inferences pertaining to the literature associated with consumer buying behaviour research. Bibliometric analysis consist of a set of statistical techniques used to study bibliographic data belonging to a certain context.

To conduct this bibliometric analysis, the software package VOSviewer and R extension known as Bibliometrix is used. VOSviewer is a software package that is used to carry out bibliometric analysis and generate network visualisations from a given database (Van Eck and Waltman, 2014). It is used by

researchers to draw inferences from datasets using various visual layouts and clustering techniques. Bibliometrix is a software package for R that is also used for qualitative analysis along with the visual representation of bibliometric data (Derviş, 2020).

The data for bibliometric analysis is collected from an open-source bibliographic database known as Open Alex. Open Alex is an open-source database, that indexes scholarly works, along with the metadata such as authors, institutions, countries, concepts, etc. Moreover, Open Alex does not require any institutional access to retrieve the data.

To gather data relating to consumer buying behaviour from Open Alex a title search for keywords "Buying Behavior" OR "Buying Behaviour" is performed. The study uses title searches to only include scholarly works that strictly discuss consumer buying behaviour in their works. The title search also helps in excluding works that indirectly refer to consumer buying behaviour in their study and whose main focus is not consumer buying behaviour. The timespan of consumer buying behaviour research that is covered in this study ranges from the years 1958 to 2024. Additionally, the data is filtered to only include *Research Articles* that are in *English Language*. After the process of applying the aforementioned inclusions, 4,795 research articles are selected for carrying out the bibliometric analysis.

Open Alex is compatible with VOSviewer as well as the Bibliometrix package, which makes it an ideal platform for the study. To collect the data from Open Alex for VOSviewer, the Application Programming Interface (API) retrieval method is used. API is a framework that is used as a communication link between two computer programs, which in this case are Open Alex, and VOSviewer. API provides an efficient retrieval of large collection of bibliometric data throughout multiple platforms (Velez-Estevez *et al.*, 2023). Using the API link generated by Open Alex for the given database along with the applied filters, data can be downloaded directly to VOSviewer. In this study, VOSviewer is utilised for its network visualisation capabilities, which is an integral part of bibliometric analysis. Bibliometric coupling analysis of documents assists in the identification of major subthemes in the field of consumer buying behaviour by forming clusters representing major subthemes. On the other hand, bibliometric-coupling analysis of countries provides a visual representation of major countries that contribute to the research of consumer buying behaviour.

To import data to Bibliometrix package, the bibliometric data from Open Alex is downloaded in the form of a .csv file extension and is imported to the web UI of Bibliometrix for further analysis. The R extension Bibliometrix is a comprehensive open-source tool that provides various data visualisation methods in addition to network visualisation (Aria and Cuccurullo, 2017). For this study, Bibliometrix is used to visualise the annual scientific production of research articles studying consumer buying behaviour throughout the years along with visualising the evolution of trending topics in the field of consumer buying behaviour research. Moreover, Bibliometrix also supported the identification of prominent works and authors in the consumer buying behaviour research landscape.

It is worth mentioning that the data of the highest contributing institutions to the field was retrieved from the Open Alex web interface itself.

4: BIBLIOMETRIC ANALYSIS

Development of Consumer Buying Behaviour Research

Publication Frequency

The frequency of publication is a reliable measure to ascertain the growth and development that took place in a field of study. The growth or decline in publication throughout the years gives a clear view of attention

a field of study is getting from researchers and academicians thus suggesting its relevance during a certain period. The following segment of the analysis discuss the growth trend of publication frequency in the field of consumer buying behaviour throughout the years.

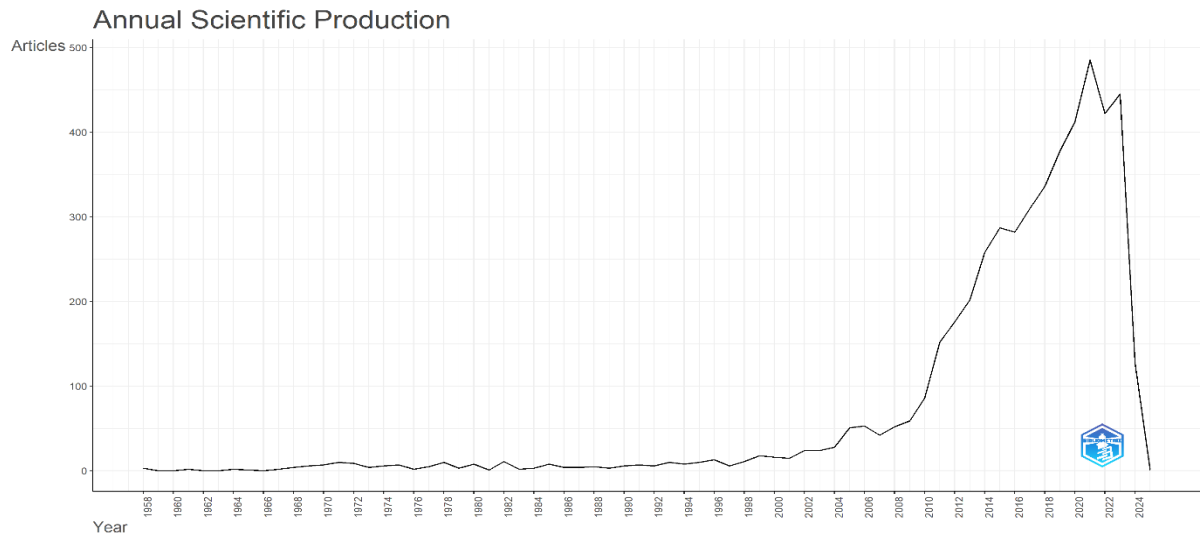


Figure 1. Annual scientific production of consumer buying behaviour research over the years

Figure 1 represents the growth of production of research on the topic of consumer buying behaviour over the years. By taking a closer look, it can be inferred that there has been a gradual increment in publication in this field from the year 2000. It is also evident from **Figure 1** that by far, 2021 has been the year during which the production of research papers concerning consumer buying behaviour has been the highest with 485 publications, followed by a minor decline in the year 2023 of 445 publications.

Trending Topics

This segment of the bibliometric analysis discusses the evolution of the topics over time. This analysis will help in the understanding of the historical trend of the various concepts encircling consumer buying behaviour. This analysis will also give clarity into the latest trends being addressed in the scholarly works of recent times.

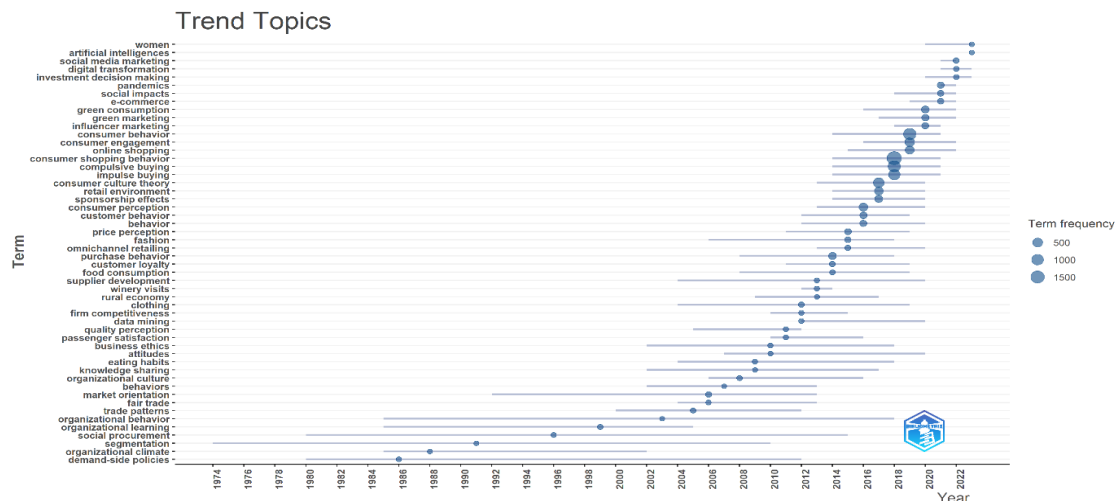


Figure 2. Evolution of trending topics of consumer buying behaviour research

According to **Figure 2**, some of the most frequently mentioned terms in recent times include “consumer shopping behaviour”, “consumer behaviour”, and “compulsive buying” with more than 1000 mentions across the scholarly works followed by topics namely “impulsive buying”, “consumer culture theory”, and “consumer engagement” with mentions close to 500 and more. Some of the most recently emerging terms include “women” and “artificial intelligence” however, the frequency of these terms appearing in the research works are relatively less as both the terms appear only five times.

Prominent Contributors

Prominent Works

Citation count is an important indicator of the relevance of any scholarly work. Number of citation reflects the number of times a research works had been discussed in other related works. Prominent works belonging to the field of consumer buying behaviour research can be identified with the help of citation count of the documents associated to the field.

Table 1. Top Ten Globally Cited Documents

<i>S.no</i>	<i>Paper</i>	<i>DOI</i>	<i>Total Citations</i>	<i>TC per Year</i>
01	BRAD M. BARBER, 2007, S170137484	10.1093/rfs/hhm079	3423	190.17
02	LOIS A. MOHR, 2001, S189751245	10.1111/j.1745-6606.2001.tb00102.x	1746	72.75
03	DENNIS W. ROOK, 1995, S145429826	10.1086/209452	1298	43.27
04	MICHAL CARRINGTON, 2010, S76633192	10.1007/s10551-010-0501-6	933	62.20
05	JACQUELINE J. KACEN, 2002, S163545350	10.1207/s15327663jcp1202_08	839	36.48
06	STEVEN BELLMAN, 1999, S103482838	10.1145/322796.322805	757	29.12
07	ANGELA HAUSMAN, 2000, S165789823	10.1108/07363760010341045	664	26.56
08	FREDERICK E. WEBSTER, 1972, S142990027	10.2307/1250972	520	9.81
09	HANS BAUMGARTNER, 1996, S11810700	10.1016/0167-8116(95)00037-2	515	17.76
10	HAIRONG LI, 2006, S30594836	10.1111/j.1083-6101.1999.tb00336.x	395	20.79

The **Table 1** presents the top ten globally cited publications in the field of consumer buying behaviour research. The paper by Barber and Odean (2007) discussing the effect of news on the buying behaviour of stocks among individuals and institutional investors has been the most globally cited document with a total citation count of 3423 and a per year citation count of 190.17. The second most cited document with 1746 total citation and 72.75 citations per year is by Mohr et al. (2001) who studied the influence of corporate social responsibility on the buying behaviour of consumers. Following works by Rook and Fisher (1995) on impulsive buying behaviour, Carrington et al. (2010) on ethical purchase intentions and Kacen and Lee (2002) on the influence of culture on consumer buying behaviour. The analysis presents a diverse array of studies that hold relevance in the field of consumer buying behaviour.

Relevant Authors

The relevance of an author in a field can be gauged by the frequency of his production and the citation count of his works. The h-index captures the essence of both measures to give an accurate contribution of an author in a certain field. Since h-index is commonly accepted indicator of academic performance, this study will use it to rank the most prominent authors in the field of consumer buying behaviour research.

Table 2. Top Ten Relevant Authors Based on h-index

<i>S.no</i>	<i>Authors</i>	<i>h-index</i>	<i>Total Citation</i>	<i>Number of Publications</i>
01	JAMES H. MYERS	6	205	8
02	YORAM WIND	6	1140	8
03	ARCH G. WOODSIDE	4	173	5
04	DAVID B. MONTGOMERY	4	143	5
05	ERIC J. JOHNSON	4	1196	4
06	FREDERICK E. WEBSTER	4	1028	4
07	GERALD L. LOHSE	4	1196	4
08	JEFFREY E. LEWIN	4	468	4
09	STEVEN BELLMAN	4	1196	4
10	WESLEY J. JOHNSTON	4	441	5

Table 2 demonstrates the top ten relevant authors ranked based on their h-index along with total number of citations and the number of publications. The number of the h-index implies that the authors have published n number of publications that have a citation count equal to or more than the number of publications. It is observable that the highest h-index score is six in the consumer buying behaviour research landscape belonging to James H. Myers and Yoram Wind making them the most relevant contributor to the field. To avoid confusion, it is worth mentioning that the authors sharing the same value of h-index are arranged in alphabetical order in the **Table 2**. Another notable observation is that only one author namely Frederick E. Webster is present on the **Table 1** and **Table 2**. This implies that out of all the relevant authors mentioned in **Table 2**, only one made to the list of most cited works with his work having a total citation count of 520 (Webster and Wind, 1972). Frederick E. Webster is one of the most cited and relevant authors in the field of consumer buying behaviour research.

Countries

This part of the bibliometric analysis aims to identify the top contributing countries in the landscape of consumer buying behaviour studies. To identify the most relevant countries along with providing a visual representation, bibliometric-coupling analysis is carried out with the help of VOSviewer program.

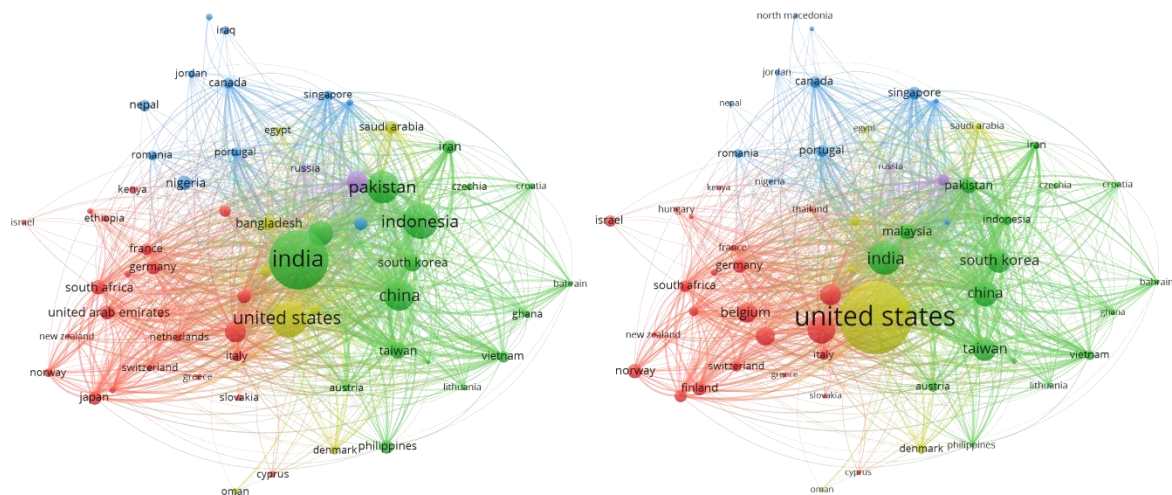


Figure 3. Bibliometric coupling analysis of countries (left weighted by the frequency of publication and right weighted by number of citations)

Figure 3 presents the visually guided bibliometric coupling analysis of the major contributing nations in the field of consumer buying behaviour. On the network analysis to the left-hand side, the weights assigned to the countries are the frequency of documents produced by that country. On the other hand, the network on the right is weighted based on number of citations. Based on publication frequency, India is the largest producer of research articles in the field of consumer buying behaviour with 549 publications followed by the United States, which has 212 publications. Other prominent countries strictly based on publication count include Indonesia (200), Pakistan (171) and China (153). However, when it comes to the relevance of countries based on the citation count, United States takes the lead with 14735 citations followed India with 3253 citations, United Kingdom with 2214, China (1809) and Taiwan (1492).

Institutions

Institutions play an integral part in the development of academia and research. By providing the necessary environment and academic resources, these institutions make research flourish all over the world. Therefore, it becomes a crucial part of this analysis to identify the major institutions contributing to the field of consumer buying behaviour research. The analysis is carried out using bibliometric coupling of organisations in VOSviewer package to identify the institutions with most publication along with the institutions with most number of citations.

Table 3. Top Five Institutions Based on Publication Frequency (left) and Citation Count (right)

<i>S.no</i>	<i>Institution</i>	<i>Publications</i>	<i>S.no</i>	<i>Institution</i>	<i>Citations</i>
1	Amity University	33	1	University of California, Davis	3579

2	IMS Unison University	25	2	University of California, Berkeley	3578
3	Binus University	22	3	Georgia State University	2282
4	University of Delhi	21	4	University of Melbourne	933
5	Symbiosis International University	21	5	Pennsylvania State University	847

According to **Table 3**, most of the institutions that have a larger quantity of publications are from India except Binus University from Indonesia. A Similar trend is observed in the ranks of top five institutions with works have the highest number of citation. All the five intuitions identified to have the most cited works, hail from the United States. This pattern is quite similar to the bibliometric analysis carried out for countries where India was in the lead in case of publishing frequency and the United States led in the criteria of citation count.

Major Subthemes

The identification of major subthemes in consumer buying behaviour research will provide clarity regarding of the extending scope and direction of the field. This section of the analysis will recognise the major subthemes adapted by researchers in their works pertaining to consumer buying behaviour. To do this, bibliometric-coupling analysis of documents using VOSviewer is carried out to formulate clusters that divide the scholarly works into subthemes.

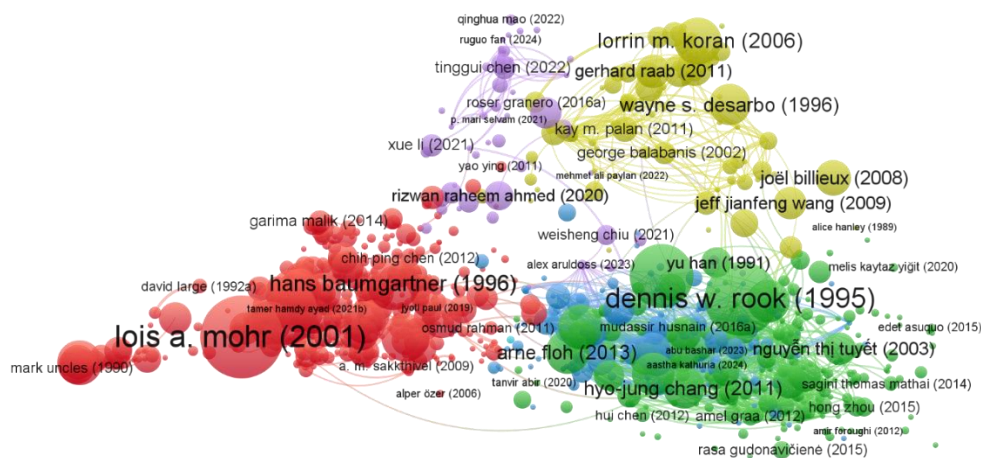


Figure 4. Bibliometric coupling analysis of documents

Figure 4 presents the bibliometric coupling of the documents published in the field of consumer buying behaviour research. The colours used to represent the clusters assist in the identification of subthemes in consumer buying behaviour research. The red cluster mainly consists of research covering the social and ethical aspects of consumer behaviour. The highest cited work in this cluster is by Mohr et al. (2001) which discusses the impact of corporate social responsibility policies on consumer buying behaviour. The green and blue cluster overlapping each other comprises of scholarly works dealing with impulsive buying behaviour and the factors that influence impulsiveness among buyers. The most cited work in this segment is by Rook and Fisher (1995) on the normative effect on impulsive buying. The cluster in yellow contains works that study compulsive buying behaviour. The work by Koran et al. (2006) studying the commonness

of compulsive buyers in the United States is the most cited in this cluster. At last, the purple cluster mainly carry works that study panic buying among consumer during the time of COVID -19 pandemic. Omar et al. (2021) studying the influence of factors like uncertainty, scarcity, and anxiety on panic buying behaviour during COVID-19 is the most cited work in this cluster. Using the bibliometric-coupling analysis four major subthemes of consumer buying behaviour are identified. The subthemes can be classified into Social impact on Buying Behaviour, Impulsive Buying Behaviour, Compulsive Buying Behaviour and Panic Buying Behaviour.

05: DISCUSSION

Consumer buying behaviour landscape throughout the years

It is clear from the analysis that researchers and academicians have been taking inclination towards production of scholarly works associated with consumer buying behaviour. The surge in the production of research articles is adequately evident to support the former statement. The rise in the publications indicates promising prospects of growth and extension of consumer buying behaviour research. Moreover, the fast-paced emerging trends give clarity into how dynamic the field has become. After the 2000s, a shift from the traditional underpinnings has led to the emergence of new concepts in the field at a large scale. Concepts such as sustainability, digital marketing, impulsive and compulsive buying behaviour are some of the prominent points of concern for the modern researcher. However, it is worth noting that mere quantity is not a suitable measure to gauge the development of the field. Quality research is a crucial ingredient to sustain the interest among researchers aspiring to understand and contribute to this field. Putting all things into perspective, emphasis on quality along with the rising quantity of publications and emerging sub-fields will promote the growth of consumer buying behaviour research.

Contribution to Consumer Buying Behaviour Research

Analysis of the contribution made in the form of scholarly works, by authors, by countries and institutions provides information about the sources and their relevance in a particular field. Some of most cited research articles in the field of consumer buying behaviour discuss the impact of certain factors such as the influence of news, CSR initiatives, and culture on consumer buying behaviour reflecting the dynamic nature of consumer buying behaviour research (Barber and Odean, 2007; Mohr et al., 2001; Kacen and Lee, 2002). Moreover, some well cited works also focus on the behavioural aspects of consumers such as impulsive buying and ethical purchase intentions (Rook and Fisher, 1995; Carrington et al., 2010). When it comes to the most contributing authors, ranked based on their H-Index, James H. Myers and Yoram Wind had the highest H-Index of six. However, Frederick E. Webster is the one and only author that was listed in **Table 1** of most cited works as well as in **Table 2** of the most relevant authors making him a relevant as well as consistent contributor of the field. During the identification of relevant contributing countries in the field, the findings suggested that India is the largest producer of buying behaviour research followed by the United States. However, when the countries are ranked based on their citation count, the sequence is reversed i.e. United States takes the lead followed by India. This again reflects the need for the consideration of quality over quantity. Countries with higher number of publications in the field should focus on the quality aspect as well. A similar dissonant pattern between quality and quantity can be seen in case of major institutions contributing to the field of consumer buying behaviour. Most of the top Institutions with highest production of scholarly work (except Binus University from Indonesia) are Indian institutions. Once again, all the top five universities with the highest citation count are from the United States. Which again, implies the need of a balance between quality and quantity.

Growing Scope of Consumer Behaviour research

The concept of consumer buying behaviour has been a focus of research for decades. In this period, this theme has been extending itself into various disciplines and subthemes. The bibliometric coupling analysis was able to identify four major subthemes stemming from consumer buying behaviour research. Based on the contents of these clusters, the subthemes are labelled as follows: Social impact on Buying Behaviour, Impulsive Buying Behaviour, Compulsive Buying Behaviour and Panic Buying Behaviour. The first subtheme concerns with the influence of social and ethical practices carried out by brands on the buying behaviour of consumers. The second cluster contains works on buying impulsiveness among consumers. The cluster that follows, include works on compulsive buying behaviour. The fourth subtheme, which is a relatively new extension that has risen during the COVID-19 pandemic, are the studies on panic buying behaviour among customers. All these subthemes give a reflection on the direction of consumer buying behaviour research. By looking into the trending topics discussed earlier in the study, it can be inferred that impulsiveness buying and compulsive buying were also among the trending terms in the field. The overlapping of these concepts in trending topics and major subtheme ensures their relevance in the field. Moreover, the subtheme Social Impact on Consumer Buying Behaviour is the second densest cluster implying a relatively large number of publications on consumer buying behaviour involve the study of social and ethical aspects of the brand and the effect they have of buying behaviour.

06: CONCLUSION

With the help of bibliometric analysis, this study provides insightful details pertaining to the growth and development of the consumer buying behaviour research landscape. The analysis involved tracking the development of the field, highlighting relevant contributors and identification of the most prominent sub-themes of consumer buying behaviour research. Moreover, the study also presents the evolving trends thus providing with the direction of development of the field. The prominent works in consumer buying behaviour research included research articles on the theme of financial buying behaviour, corporate social responsibility, impulsive buying, ethical purchase intentions and cultural impact on consumer buying behaviour. The relevance of authors was evaluated based on their h-index as the indicator of their academic contribution to the field. Furthermore, the study recognizes major contributing countries and institutions in the field based on their number of publications (which include India, United States, Indonesia, Pakistan and China) and citation counts (Which includes United States, India, United Kingdom, China and Taiwan) where the dissonance between the quality and quantity of research articles was identified to be the major point of concern. With the help of bibliometric coupling, four major clusters representing the major subthemes encircling the consumer buying behaviour research which included Social impact on Buying Behaviour, Impulsive Buying Behaviour, Compulsive Buying Behaviour and Panic Buying Behaviour.

Future Research Implications

In its entirety, the research equips its reader with bibliometric information of research papers that revolve around the themes of consumer buying behaviour. The findings can be utilized to draw inferences regarding the state of consumer buying behaviour research and its development over time. This paper will guide researchers and academicians in the identification of prominent works, authors, countries and institutions, trending terminologies and subthemes of the field. Future works may include the extension of bibliometric analysis along with a systematic literature review using other databases such as Scopus or Web of Science. By incorporating the trending topics pertaining to consumer buying behaviour in their studies, researchers can make their work more relevant and sought after. Moreover, works can focus on

the major subthemes identified from the analysis further adding up to the body of consumer buying behaviour research. However, the study suggests future researchers, academicians and organizations to put greater emphasis on the quality of scholarly work rather than the frequency of their publications to ensure quality contribution to the field of consumer buying behaviour research.

Limitations of the Study

Regardless of the insights produced through this bibliometric analysis, the study has its shortcomings as well. Just like every secondary data analysis, this study is dependent on the bibliometric input extracted from the OpenAlex database. However, OpenAlex also comes with its limitations such as a lack of support for co-citation analysis, which is a commonly integrated feature in studies concerning bibliometric analyses. Moreover, this study analyses the consumer buying behaviour landscape extensively by covering a wide range of subthemes inside the field. Future research can focus on a single aspect of consumer buying behaviour while carrying out bibliometric analysis.

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