

Mapping Research Insights on Impulse Buying: A Systematic Literature Review Using Bibliometric Analysis

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Abstract

Growing environmental changes, economic downturns, increasing conflicts, proliferation of internet, social media and digital technologies have changed the dynamics of buying. Consumers have become mindful of what they want and come more prepared before shopping but also end up making spontaneous purchase decisions that are mostly unplanned, termed as impulse buying. The current research offers a detailed analysis of impulsive buying using a systematic literature review (SLR). Following the application of selection criteria, this research included a total of 151 papers sourced from 32 journals with high impact factor, using the Web of Science (WoS) Core Collection Database. By adopting a holistic approach, this study investigates impulse buying behaviour in both traditional brick-and-mortar stores and online environments. The bibliometric findings were generated using VOSviewer software. The findings of this systematic review of literature indicates the following conclusions: (a) the extant literature on impulse buying is divided into two broad spectrums- one is the impulse buying in offline/ traditional shopping context and the other one deals with the online impulse buying; (b) the studies on antecedents on impulse buying are higher in number, followed by studies across different e-commerce platforms; (c) there are limited studies that focus on developing scales and measures of impulse buying.

Keywords-Systematic literature review, impulse buying, social commerce, behaviour.

1. Introduction

Customers often engage in impulsive and spontaneous buying behaviour mostly driven by intuition when confronted with various stimuli. The act of making these purchases is often linked to a strong desire and a feeling of gratification (Chan, Cheung, & Lee, 2017; Rook & Fisher, 1995). This phenomenon is termed as impulse buying. Impulse buying characterised by unplanned, compelling and hedonically complex behaviour (Stern, 1962), has been studied widely in both business and academia. Researchers have studied the phenomenon of impulsive buying for almost eighty years. It has sparked the interest of marketing specialists since the 1940s, and the first detailed research were undertaken between 1945 and 1965 in the United States of America (USA) under the name DuPont Consumer Buying Habit Studies. These investigations sparked subsequent research into the phenomena of impulsive purchasing (Piron, 1991). An accurate definition of impulsive purchasing has been the common denominator all the studies conducted on the topic (Stern, 1962; Kollat and Willet, 1967; Rook and Hoch, 1985; Rook; 1987; Piron, 1991). The concept of impulse buying is well defined but there are some indecisions about what actually constitutes it. The idea of impulsive purchase is more complex and multifaceted than most people believe (Hausman, 2000). It has been discovered that consumers frequently conflate impulsive shopping with unplanned purchases. Unplanned purchases, on the other hand, are a subset of the impulsive purchasing, and the scope of impulsive buying is far greater than unplanned purchases (Iyer, 1989). The second source of uncertainty is determining significant motivators that lead to impulsive purchasing. This is most likely due to the large number of separate researches conducted in this sector, both across offline and online milieus. To clear up any ambiguity, this study is focused on providing a full explanation of what impulse buying is and what are its most relevant antecedents. This research provides a historical review of the idea of 'impulse buying', followed by an analysis of current terminology pertaining to it. After conducting a comprehensive investigation, the current study provides a meticulous evaluation of the prominent authors, source journals, nations, publications and themes that have had a considerable impact on the field of impulse buying.

2. Review of Literature

2.1 Impulse Buying

For the first time, during 1940s, impulsive buying was observed as an illogical behaviour. This phenomenon piqued the interest of a number of researchers, who struggled to find a way to measure it because the trial participants were reluctant to disclose all of the items they intended to purchase (which were then contrasted with their actual purchases) (Kollat and Willett, 1969)). Researchers at Du Pont de Nemours & Co. (1945–1949; 1954–1959; 1965–1965; Rook (1987)) focused on identifying and measuring impulsive purchasing to better understand consumer behaviour. Later, a study about impulse buying found out that considerable sales in retail stores are considered to be unplanned purchases (Clover, 1950). The concept of impulse purchasing was initially defined as an unplanned buy in the aforementioned studies. Nonetheless, a number of academics have stated that classifying impulsive purchases only on the basis of unplanned purchases is overly simplistic (Stern, 1962; Kollat and Willett, 1969; Rook, 1987). Even though, all impulse purchases can be confirmed as unplanned, but all of the unplanned purchases cannot be characterised as impulsive buys (Koski, 2004). Applebaum (1951) proposed that impulsive purchasing occurs after a consumer is exposed to a stimulus. Rook and Hoch (1985) defined impulsive purchasing as "unplanned purchases made without any need or benefit received," and hence focused on the cognitive and emotional reactions experienced by consumers during unplanned purchases. Later, Rook (1987) argued that impulsive purchase arose from a consumer's immediate, intense, and ongoing desire to buy something. This compelling want to buy causes mental instability and emotional anguish.

According to the results of a meta-analysis that Piron (1991) performed, there were 13 distinct types of impulse buying. Later, he consolidated these ideas and proposed a comprehensive description for impulsive purchasing. The study defined impulse purchasing as an unanticipated purchase decision made in reciprocation of a stimuli and claimed that the consumer had motivation and/or cognitive responses post purchase. Impulsive buying was also defined as the tendency to sense a sudden desire to buy something in the spur of the moment and then act on that impulse without much thought (Beatty and Ferrell, 1998).

According to Stephen and Loewenstein (1991), the need to consume on impulse is caused by people rather than products. Subsequent investigations placed particular attention on the importance of individual factors in examining the phenomenon of impulsive purchase. These researches delved into the influence of internal motivators on the act of impulse buying, ultimately characterising it as a complex interplay of internal and external motivational factors. External motivators are stimuli that are within the control of marketers or sensory signals that arise from the marketing system, such as the product itself or atmospherics. On the other hand, internal motivators include cravings, intense urges to make a purchase, internal cognitive processes and thoughts (Hoch and Loewenstein, 1991). Amos et al. (2014), Muruganantham and Bhakat (2013), and Badgaiyan and Verma (2012) analysed the impact of both intrinsic (personal) and extrinsic (store or circumstantial) factors on impulsive purchases. Previous studies considered impulse buying to have an affective nature as it was considered to be driven by emotions rather than the rationality of consumers. But the recent studies have shed light on the hedonically complex and compelling nature of impulse buying (Sharma et al., 2010).

As more people use the internet, more stores adopt multi-channel strategies, and social media continues to expand its reach, customers are continuously bombarded with marketing messages designed to encourage them to make a quick, impulse buy. With the advent of the World Wide Web, the intensity to make impulse buys have risen. Online stores provide a convenient shopping channel open around the clock, seven days a week (Phau and Lo, 2004).

2.2 Online impulse buying

Irrational online purchasing accounts for a substantial portion of e-retailer revenue. When confronted with consumptive stimuli, customers' inability to control their purchasing impulses results in online impulse purchases. In other words, consumers are divided between their desire for consumptive stimuli and their self-control (Baumeister, 2002). It became apparent by the end of the 1980s that advancements such as credit cards, direct marketing, and in-home purchasing had facilitated impulsive purchases (Rook, 1987). Greenfield (1999) found that the convenience of selecting a product and 'clicking' on it increased the likelihood of making online impulsive purchases. Consequently, many studies claimed that the Internet would make it more difficult for consumers to control their purchasing impulses. Other authors however stated otherwise, i.e. impulse buying as a phenomenon is more prevalent in offline shopping rather than in online scenario (Kacen, 2003). McCabe and Nowlis (2003) discovered that products that needed physical contact, like apparels, are purchased more impetuously in traditional retail stores than online platforms. Subsequently, a select group of scholars (Bellini et al., 2017; Chawla et al., 2015; Krishnan, 2015; Vohra, 2016) conducted reviews of the existing

literature on impulse purchases, reporting on the several frameworks that had been used throughout the certain span of time, their findings, and potential future research agendas. Only a few of studies published in the last few years have tried to provide an exhaustive overview of the published works on impulse buys made online (Abdelsalam et al., 2020; Firdaus et al., 2019; Xiao and Nicholson, 2013; Zulfiqar et al., 2018). The issues about the main trends, article sources, author analytics, social structure, conceptual structure, and intellectual contributions of the body of literature were ignored in favour of the theoretical foundations, research methodology, research context, and predictors of online impulse buying. Although Bashar et al. (2022) conducted a bibliometric study on impulsive buying, but their work is limited in scope as it only covers the online facet of impulsive purchase. The primary objective of this research is to develop a thorough understanding of impulsive buying by examining the current body of literature pertaining to both offline and online contexts. It therefore aims to provide a systematic review of 151 articles from 32 high-impact journals on impulsive purchasing. Consequently, utilising prior research, the present study endeavours to provide answer to the ensuing research questions:

1. What is the current status of literature on impulse buying?
2. What constitutes the concept of impulsive buying and what are its impacting factors?
3. In which contexts is impulse buying been investigated? What is the trend of impulse buying research year to date?

3. Methodology (Limited Journals)

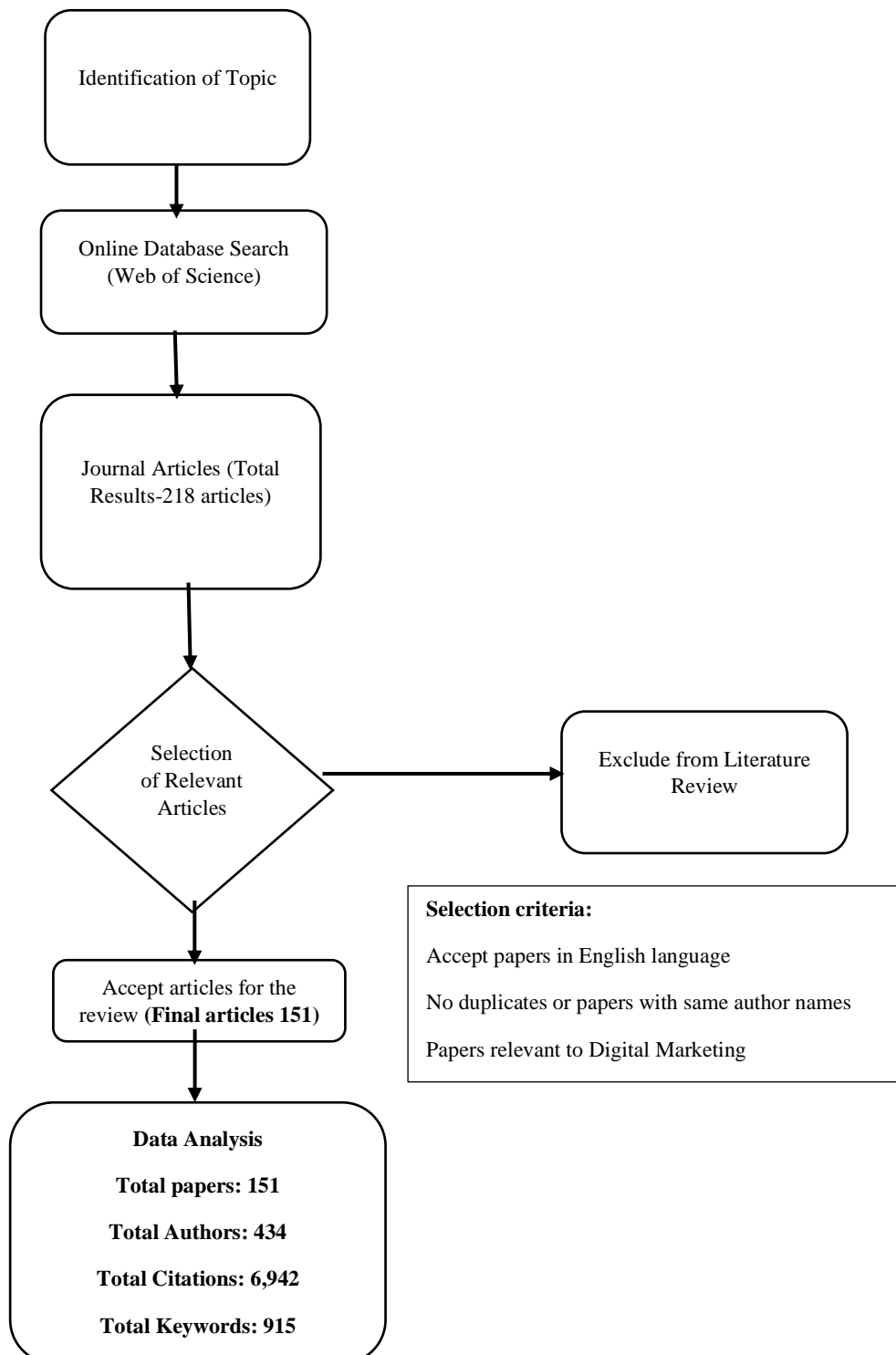
The current study used a systematic review approach to conduct a literature review on impulse buying. According to Tranfield et al. (2003), a systematic review is considered a fundamental component of ‘pragmatic’ management research, aiming to provide assistance to both the academic and practitioner communities. Thomson Reuters' Web of Science database was employed to compile data for the current bibliometric study during the last 20 years (2003-2023). While Scopus and Google Scholar have been utilised for bibliographic analysis (Aguillo, 2012; Bamel et al., 2020), WoS has proved to be an invaluable resource for producing comprehensive reports in the social sciences. One of the most popular databases, Google Scholar was left out of the study due to a lack of specific information necessary for bibliometric network analysis (Benckendorff & Zehrer, 2013). As stated by Archambault et al. (2009), WoS is recommended over Scopus database since it incorporates not only the Science Citation Index but also the Social Science Citation Index and the Arts and Humanities Citation Index. The authors searched the WoS database by means of the inclusion/exclusion criteria as described in the following paragraphs:

- a) Articles and publication sources: The authors began with a thorough examination of the literature on impulse buying, focusing solely on research studies. As a result, other sources such as working papers, conference proceedings, textbooks and research theses are not covered in this study.
- b) Temporal duration: The systematic evaluation included articles from the year 2003 to 2023.
- c) Choice of journals: This study only selected limited journals for the purpose of bibliometric analysis based on the ‘Journal Citation Report (2016) by Thompson Reuters’. Apart from this some other journals were selected based on number of documents published, total number of citations and impact factor (greater than 3). The journals selected were ‘European Journal of Marketing (EJM), Journal of Consumer Research (JCR), Journal of Retailing and Consumer Services (JRCS), Decision Support Systems (DSS), MIS Quarterly (MISQ), Computers in Human Behaviour (CHB), Internet Research (JR), International Journal of Information Management (IJIM), Journal of Business Research (JBR), Cornell Hospitality Quarterly (CHQ), Journal of Marketing (JOM), Journal of Marketing Management (JMM), Tourism Management (TM), International Journal of Hospitality Management (IJHM), Journal of Travel Tourism Marketing (JTTM), Journal of Travel Research (JTR), International Journal of Contemporary Hospitality Management (IJCHM), International Journal of Retail and Distribution Management (IJRDM), Journal of Consumer Behaviour, International Journal of Consumer Studies, Frontiers in Psychology, Sustainability, Industrial Management Data Systems, Information and Management, Asia Pacific Journal of Marketing and Logistics, Psychology and Marketing, , Marketing Intelligence Planning, Marketing Letters, Electronic Commerce Research and Applications, International Journal of Human Computer Interaction, Journal of Hospitality and Tourism Research (JHTR), Plos One’.
- d) Language: Articles written in languages other than English were not included in the search. Search Process and Selection of Relevant Records

Previous conceptual articles and a systematic review in the field of impulsive purchasing served as the basis for the selection of keywords utilised to extract the detailed information on impulse purchases. (Amos et al, 2014; Chan et. al, 2017). The select keywords that appeared in the title and abstract of all publications are ‘Impulse buying’, ‘Unplanned Purchase’, ‘Impulse purchase’, ‘Impulse shopping’, ‘Impulse Buying Tendency’, ‘Unplanned shopping’, ‘Impulse

Buying Behaviour', 'Buying Impulsiveness', 'Purchase Impulsiveness', 'Online Impulse Buying', 'e- impulse buying', 'e impulse purchase', ' impulse buying AND Social media', 'internet impulse buying', 'e commerce AND impulse buying', ' e-impulse buying tendency'. This whole process yielded 214 articles. After the manual removal of articles outside the scope of impulse buying and duplicate studies, 151 papers with 6,942 citations were shortlisted for the study and further analysis. The bibliometric research includes papers from several academic disciplines, including Business, Management, Psychology, Computer Science, Information and Library Science, Hospitality, Recreation, Leisure, and Telecommunications.

Figure I. Methodology Flowchart for Bibliometric Review.



The process of data analysis was conducted in a series of three sequential phases. Initially, we give a comprehensive analysis of the descriptive statistics pertaining to the dataset obtained from the Web of Science (WoS) database. This document encompasses the prevailing patterns in publication, including the names of relevant journals and corresponding citation counts, as well as an overview of the most impactful studies on impulsive purchasing. Additionally, the VOSviewer is used to generate keyword co-occurrence and co-citation networks beneficial for grouping the articles and producing patterns and trends discovered in the area of impulse buying. Figure1 outlines the steps involved in the review process.

4. Results and Discussion

4.1 Data Analysis

The total number of publications included for this literature analysis is 151, with the earliest paper appearing in 2003 and the most current in 2023. There are 532 author keywords used in citations, out of a total of 915 keywords, as shown in Table 1. In all, 6,942 citations were included for the analysis, spanning across a wide range of nations). Each piece of literature received an average of 45.97 citations.

Table I. Account of papers used in bibliometric analysis

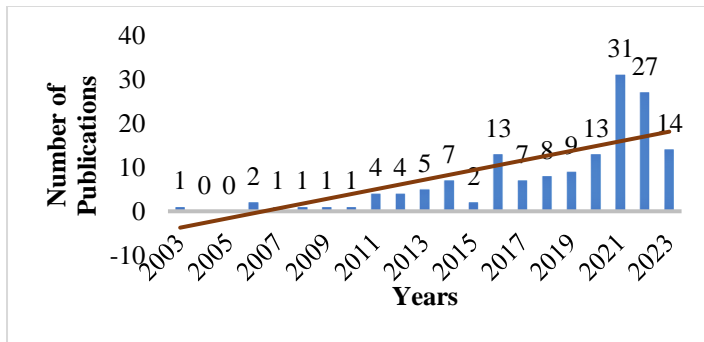
Papers Shortlisted	151
Sum of the times cited	6,942
Average citations per item	45.97
h-index	46
Total keywords	915
Author's keywords (DE)	532
Keywords plus (ID)	468
Total number of authors	434
Period	2003-2023

Source: Web of Science (WoS) database.

4.1.1 Publication Trend in the domain of Impulse Buying

Since 2012, there has been an increase in studies on impulse buying, as depicted in Figure 2. Later, with the penetration of the internet and social media, the literature on online impulse purchasing from 2016 has witnessed a spike, with research focusing on variables and motivators, both internal and external, driving impulsive purchase in the online setting (Bandhopadhyay, 2016; Dhaundiyal and Coughlan, 2016; Akram et al., 2018; Barros et al., 2019; Bellini and Aiolfi, 2019; Deshpande et al., 2022). Also the time from the year 2019 marked with increasing literature on the rise of online impulse buying (Chen et al., 2019), impulse buying among Gen Z population, thereby linking social commerce and impulse buying (Djafarova and Bowes, 2021). There was also an increase in articles linking impulsive purchasing to the Covid-19 pandemic beginning in the year 2020 (Chui et al., 2022; Lavuri et al., 2023). This is now followed by subsequent research on the relationship between live streaming commerce/live commerce and online impulsive buying since the year 2022 (Lin et al., 2023; Fu and Hsu, 2023).

Figure 2. Publication trend in Impulse Buying Research (2003-2023)



4.1.2 Most Prolific Authors in the domain of Impulse Buying

The most prolific authors in the milieu of impulse buying help us comprehend specific authors who have made important contributions in the impulse buying (online as well as offline). Table 2 shows the writers who have been constantly publishing in the field of impulse buying.

Bharadwaj Shivakumaran is at the top of the list with 6 published research articles in the discipline of impulsive buying, identifying themes that focus on hedonic shopping motivation, sales promotion, impulse buying tendency, advertising appeals, shopping enjoyment tendency, store environment, variety seeking, consumer impulsiveness, mitigation of impulse buying and several other factors that impact impulse buying. Thereafter authors like Xiabing Zheng, Tibert Verhagen have published in the field of online impulsive purchases with researches on the themes of mobile commerce, hedonic browsing, utilitarian browsing, social commerce platforms, online store beliefs, impulsive socially responsible buying.

Table 2. Most productive authors in the field of impulse buying

Author	Articles Count	Citations	Theme of Studies (Field of Impulse Buying)	Affiliated To	Publication Range
Sivakumaran, Bharadwaj	6	408	Hedonic shopping motivation, sales promotion, impulse buying tendency (IBT), advertising appeals, shopping enjoyment tendency (SET), store environment, variety seeking, consumer impulsiveness, mitigation of impulse buying	Great Lakes Institute of Management, India	2013-2022
Zheng, Xiabing	3	446	Mobile commerce, hedonic browsing, utilitarian browsing, social commerce platforms, Parasocial Interaction Theory (PSI), consumer perceived value, social influence and impulse buying	University of Science and Technology of China	2016-2021
Sharma, Piyush	3	382	Variety seeking behaviour, customer traits, impulse buying tendency (IBT), shopping enjoyment tendency (SET), store environment, consumer impulsiveness	Curtin University, Australia	2010-2014
Verhagen, Tibert	3	349	Online impulsive buying, product presentation technologies, local presence, online store beliefs, functional convenience ,	Amsterdam University of Applied Sciences	2011-2022

representational delight, website communication style, consumer emotions, advertising frames and impulsive socially responsible buying

Pradhan, Debasis	3	46	Advertising appeals and impulse buying, materialism, consumer credit card use, action regulation theory and impulse buying mitigation	XLRI, Jamshedpur, India	2018-2022
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4.1.3 Most Influential Studies in the area of Impulse Buying

In addition to identifying the most influential authors, it is crucial to identify the most frequently cited publications on impulse purchasing. It aids the academia and researchers in comprehending the studies that mould the investigation in a specific field of study. Vohs et al. (2007) has the most cited research in the field of impulse buying, as depicted in Table 3. This study examined impulsive purchases as a consequence of a common, but limited resource that regulates self-control. Individuals' self-regulatory capacities were either depleted or not depleted in three studies conducted; impulsive expenditure responses were then analysed. The study by Verhagen et al. (2011) is the second highest cited article which sheds light on the associations between online store beliefs and online impulsive purchase behaviour of the consumer. This study's cognitive emotion theory-based model demonstrated how functional convenience (online store merchandise attractiveness and simplicity of use) and representational delight (enjoyment and website communication style) were linked to impulsive purchasing in the online setting. The third most cited study is by Xiang et al., (2016), which focusses on social commerce and increasing rates of impulse buying on these platforms owing to social interactions on these sites. The parasocial interaction (PSI) theory is used in this study to investigate the impact of social connection elements on the genesis of impulsive purchase behaviour. Several more well-referenced and highly cited research (Park et al., 2012; Liu et al., 2013; Mohan et al., 2013) have investigated the effect of product qualities, website attributes, and shop environment on impulsive purchases.

4.1.4 Analysis of Citations with Most Publications across Nations and Journals

A total number of 43 nations have research publications in the area of impulse buying. However, this research uses a benchmark of minimum number 6 publications per country and only 7 countries meet this threshold. Hence 7 out of 43 countries, their number of publications and total citations is shown in Table 4. China has topped the list of most publications, with 54 published documents and 2,301 citations. The literature on impulse buying is published world-wide with countries like United States of America, England and Australia have 32, 11 and 6 publications respectively. South Asian countries like India, Taiwan and South Korea also have some notable studies with published documents as 20, 17 and 7 respectively. Overall the studies represent a decent number, however with a less focus on emerging markets and developing nations is observed.

Authors	Title	Source	Year	Citations
Vohs, Kathleen D.; Faber, Ronald J.	Spent resources: Self-regulatory resource availability affects impulse buying.	Journal of Consumer Research	2007	533
Verhagen, Tibert; van Dolen, Willemijn	The influence of online store beliefs on consumer online impulse buying: A model and empirical application.	Information and Management	2011	283

Xiang, L.; Zheng, X.B.; Lee, M.K.O.; Zhao, D.T.	Exploring consumers' impulse buying behavior on social commerce platform: The role of parasocial interaction.	International Journal of Information Management	2016	237
Park, E.J.; Kim, E.Y.; Funches, V.M.; Foxx, W.	Apparel product attributes, web browsing, and e-impulse buying on shopping websites.	Journal of Business Research	2012	232
Chan, T.K.H.; Cheung, C.M.K.; Lee, Z.W.Y.	The state of online impulse-buying research: A literature analysis.	Information and Management	2017	228
Liu, Y.; Li, H.X.; Hu, F.	Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions.	Decision Support Systems	2013	221
Peck, Joann; Childers, Terry L.	If I touch it I have to have it: Individual and environmental influences on impulse purchasing.	Journal of Business Research	2006	203
Sharma, Piyush; Sivakumaran, Bharadhwaj; Marshall, Roger	Impulse buying and variety seeking: A trait-correlates perspective.	Journal of Business Research	2010	195
Floh, A.; Madlberger, M.	The role of atmospheric cues in online impulse-buying behavior.	Electronic Commerce Research and Applications	2013	194
Jones, M.A.; Reynolds, K.E.; Weun, S.; Beatty, S.E.	The product-specific nature of impulse buying tendency.	Journal of Business Research	2003	185
Mohan,G.; Sivakumaran, B. ; Sharma, P.	Impact of store environment on impulse buying behavior.	European Journal of Marketing	2013	163

Table 3. Most dominant studies in the field of Impu

lse Buying

Table 4. Countries with notable number of publications and citations in Impulse Buying

Country	Number of Documents	Total Citations	Total Link Strength
People's Republic of China	54	2,301	372
United States of America (USA)	32	2,355	265

India	20	706	194
Taiwan	17	940	184
England	11	566	125
South Korea	7	535	74
Australia	6	183	50

The dominant journals with highest number of publications and citations in the field of impulse buying are from the periodicals related to retailing, business, consumer studies, information systems and psychology. The journals with highest number of publications include Journal of Retailing and Consumer Services, Frontiers in Psychology, Journal of Business Research, International Journal of Retail and Distribution Management, International Journal of Information Management, Journal of Consumer Behaviour, as presented in Table 5. Within the impulse buying literature, the journals that have contributed to maximum number of citations include Journal of Business Research, Information & Management, International Journal of Information Management, Journal of Consumer Research, Journal of Retailing and Consumer Services and Computers in Human Behaviour.

4.1.5 Co-Citation Network Analysis of Most Influential Work

In the field of bibliometrics, co-citation analysis is one of the most used tools for studying scholarly work. Co-citation is explained as "two publications that are cited together in one article" Small (1973). While analyzing the relationship between works of literature, the co-citation network is often used. Figure 3 depicts the co-citation network of significant works. The size of the bubbles symbolizes the total number of citations obtained by the research paper

Table 5. Notable Journals in the domain of Impulse Buying

Name of the Journals	Publications	Total Citations
Journal of Retailing and Consumer Services	18	533
Frontiers in Psychology	16	93
Journal of Business Research	10	1,198
International Journal of Retail and Distribution Management	10	250
International Journal of Information Management	8	727
Journal of Consumer Behaviour	8	119
Internet Research	7	291
Information & Management	6	818
Industrial Management and Data Systems	6	110
Asia Pacific Journal of Marketing and Logistics	6	153
Computers in Human Behaviour	5	303
Sustainability	5	102
Marketing Letters	5	135
Psychology & Marketing	4	82
International Journal of Consumer Studies	4	170
Marketing Intelligence & Planning	4	44
European Journal of Marketing	3	207
Electronic Commerce Research and Applications	3	242
International Journal of Human Computer Interaction	3	19
Journal of Hospitality & Tourism Research	3	46
Plos One	3	18
Decision Support Systems	2	365

Journal of Travel & Tourism Marketing	2	106
Journal of Travel Research	2	2
Journal of Consumer Research	1	532
International Journal of Hospitality Management	1	0
Tourism Management	1	117
Journal of Marketing	1	40
International Journal of Contemporary Hospitality Management	1	78
MIS Quarterly	1	32
Cornell Hospitality Quarterly	1	3
Journal of Marketing Management	1	7
Grand Total	151	6,942

and the thickness of the lines connecting two bubbles shows the strength of the co-citation relationships (Leung et al., 2017). The color of the bubble shows the cluster with which the items are related. Each study in Figure 2 is indicated in terms of author, year and publication journal. The total paper citations are 7,897. The criteria for qualification for the minimum number of citations is set at 20 citations of a cited reference. 38 out of 7,897 article citations, meet this threshold. Figure 3 represents 3 clusters red, green and blue. These clusters are based on the classification of literature on impulse buying.

The first cluster (red) has 19 items with the theme of studies primarily from the traditional/ offline impulse buying scenario. This cluster includes the prominent study by Rook (1987) which is considered to be one of the primary studies done on buying impulse. Followed again by the study of Rook & Fisher (1995), that studied the impact of normative influences on impulse buying and also included the development of buying impulsiveness scale. The cluster also includes study by Vohs and Faber (2007) which sheds light on self-regulatory resource availability and its impact on impulse buying. This cluster also represents studies conducted to measure Impulse Buying Tendency (IBT) (Mohan et al., 2013). Lastly this cluster also includes studies published on variety seeking behavior and impulse buying with a special focus on several personality traits like consumer impulsiveness (CI), Optimum Stimulation Level (OSL) and self-monitoring(SI) by Sharma et al. (2010).

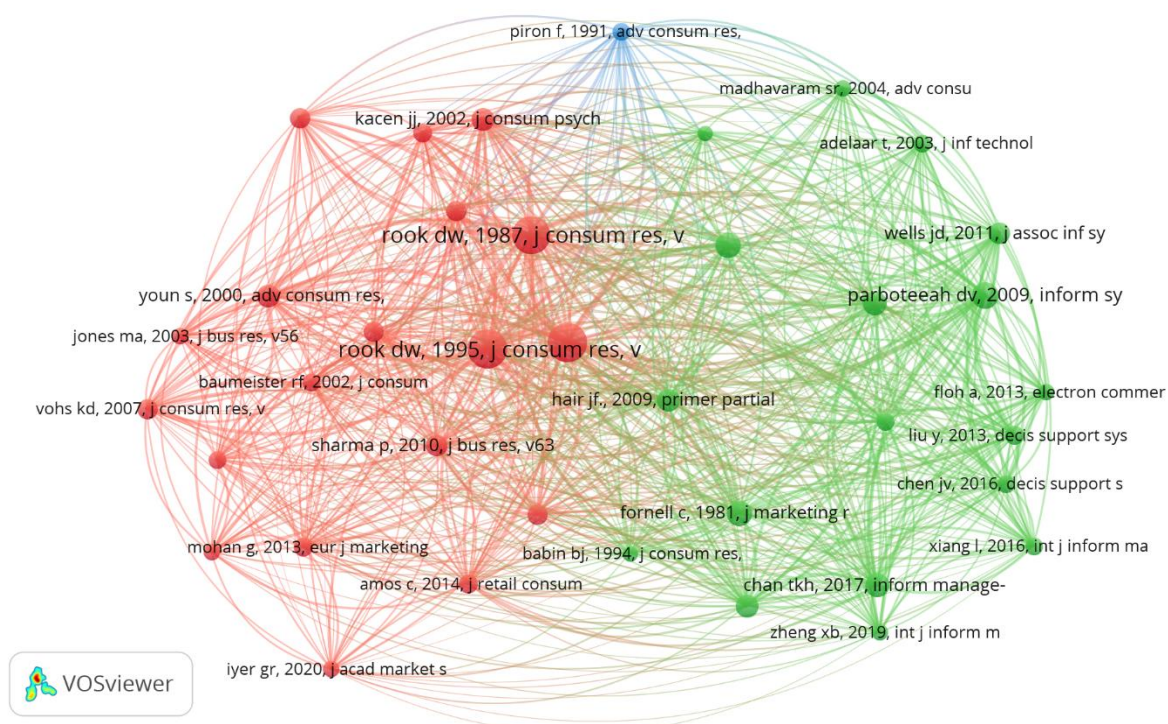


Figure 3. Co-citation Network Analysis of Most Cited Articles

The second cluster (green) represented by 18 items. The theme of this cluster revolves around online impulse buying and the various factors influencing it which includes website attributes/ cues, apparel product attributes explored by Park et al., (2012), online impulse buying in the milieus of mobile commerce and social commerce examined by Zheng et al., (2019). The third cluster (blue) depicts only one study by Piron, (1991) that was considered as one of the prominent studies in defining impulse buying.

4.1.6 Co-occurrence Analysis of Keywords

The use of co-word analysis is a widely employed bibliometric approach, as shown by its popularity in the academic literature (Callon et al., 1991). According to Whittaker (1989), the term "frequency of co-occurrence of keywords" refers to the measurement of the number of articles in which two keywords appear together. Co-word analysis is a method that examines the visual associations of commonly used words, enabling writers to identify patterns within a certain topic. The authors' selection of keywords in the study article offers valuable insights into prominent research subjects within the field (Van Eck & Waltman, 2014). The present research, singled out the keywords in the title and abstract of the selected studies in order to understand about the themes around which the literature about impulse buying revolves. Total number of 915 keywords were obtained and minimum occurrences of a keyword was set at 6. Among 915 keywords, 53 meet the threshold. The co-occurrence analysis of keywords shows the formation of six distinct clusters, depicted in Figure 4(a) and Figure (4b). The red cluster is the largest one with 18 items. This cluster as depicted in Figure 4(a), includes keywords like choice, consumer, consumption, culture, emotions, environment, gender impact, impulsive buying, impulsiveness, mediating role, orientation, perceptions, personality, preferences, self-control, store environment, temptation. The theme in this cluster is around impulsive buying and several factors like emotions, perceptions, store environment, self-control, personality, gender as influencing factors having effect on impulse buying. The second cluster (green) which consists of 13 items included keywords as antecedents, commerce, Covid-19, customer satisfaction, e-commerce, impulse buying behaviour, motivation, online, quality, satisfaction, technology, trust. The general theme in this cluster links impulse buying with online platforms and customer satisfaction. The third cluster (blue) comprising of 9 items with keywords like, brand, consequences, experience, involvement, model, moderating role, product, purchase, regret. This cluster mostly focuses on consequences after purchase and purchase regret. The fourth cluster (yellow) comprising of 8 items like buying behaviour, consumers, decision making, impulse purchase, intention, media, social commerce, word of mouth. The theme in this cluster links impulse buying to social commerce and media, with other focus on intention, decision making and word of mouth. Fifth cluster (purple) encompasses 4 items such as attributes, behaviour, motivations, utilitarian and sixth cluster (orange) depicts only one item, impulse buying tendency (IBT) which is considered to be a predictor of impulse buying.

Figure 4(b) depicts the overlay visualisation as performed by VOSviewer, which shows the evolution of the co-occurrence of keywords over time period from the year 2016 to 2020. The co-occurrence of impulse buying as keyword has changed from linking impulse buying with impulsiveness, personality, choice, and consumer in the year 2016 to associating impulse buying with media, social commerce, online, technology, covid-19, in the year 2020, continuing to develop and evolve as the literature on impulse buying increases.

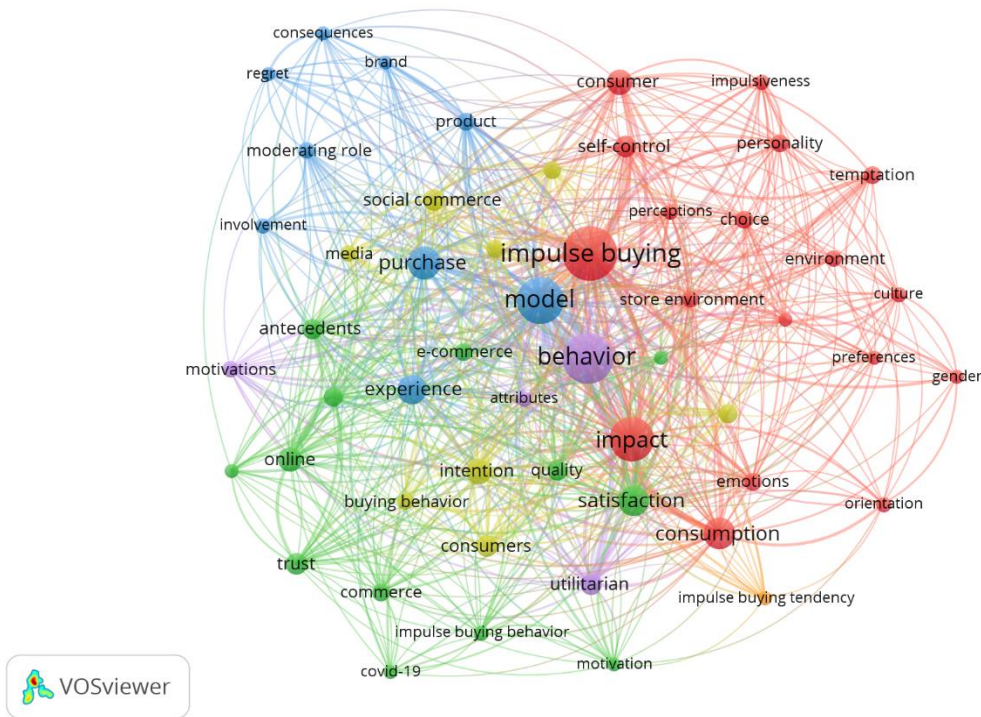


Figure 4(a). Co-occurrence of Keywords in Impulse Buying

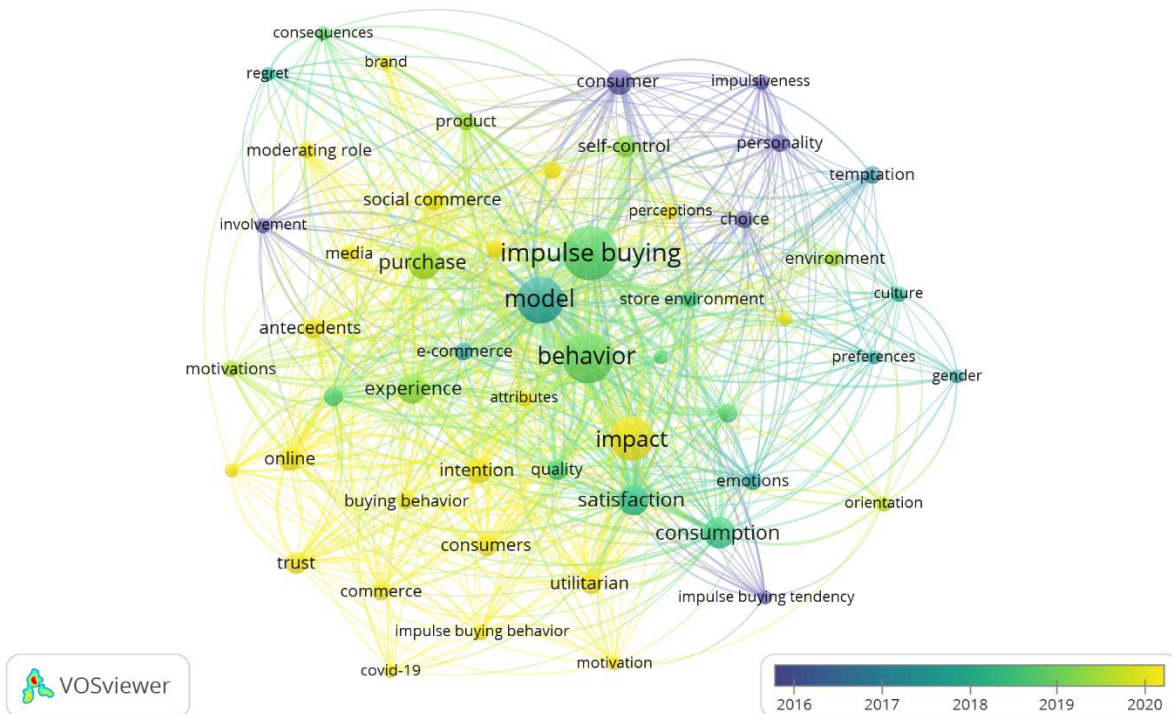


Figure 4(b). Co-occurrence of Keywords in Impulse buying (From 2016-2020)

5. Thematic Evolution of Impulse Buying: Precursors, Platforms and Situations

The present study conducts a thematic analysis after extensively understanding the various researches done in the area of impulse buying, based on the 151 articles collected from Web of Science database. Based on this, the extant literature on impulse buying is broadly divided into two segments-impulse buying in the traditional/ offline setting and impulse buying online context. Furthermore, the literature on impulse buying has given special focus to the antecedents,

precursors, stimulus, cues both internal to an individual and in the external environment, which are grouped together as a single theme that drives impulse buying, differently in online and offline setting. The second theme of this literature analysis is based on different platforms in which impulse buying usually operates followed by the third theme of special situations that in which impulse buying is seen to thrive.

5.1 Theme 1: Antecedents of online and offline impulse buying

The current study identified several categories of the antecedents of both online as well as impulse buying separately. Table 6 and 7 presents the broad antecedents and the various variables used in the studies for offline and online impulse buying.

Table 6. Antecedents of Offline Impulse Buying

Antecedents/ Predictors of Offline Impulse Buying Context	Variables used as predictors and motivators of Online Impulse Buying	References
Store Environment (External Influence)	Atmospherics, music , light, layout, employee behaviour store ambience, salesperson interaction	Mohan et al.(2013), Barros et al.(2019), Hashmi, (2020), Katakam et al. (2021)
Sales promotions (External Influence)	Advertising appeals, sales promotions	Bandhopadyay et al.(2021), Deshpande et al.(2022)
Availability and control over resources	Credit card use, self-regulatory resource availability	Vohs et al. (2007), Gawior (2022)
Internal Influences/ tendencies	Hedonic shopping motivations, shopping enjoyment tendency, Pre-purchase mood, Pre -shopping tendency, Negative emotions, cognitive characteristics	Mohan et al (2013), Bellini (2017), Bandhopadyay et al.(2021), Gawior (2022), Yu (2022)

Table 7. Antecedents of Online Impulse Buying

Antecedents/ Predictors of Online Impulse Buying	Variables used as predictors and motivators of Online Impulse Buying	References
Virtual atmospheric cues and website attributes (External Influences)	Navigability, website design, propensity, ease of use, interactivity, representational delight (website communication style), website cues, visual appeal, virtual reality shopping characteristics, vividness, augmented reality.	Verhagen & van Dolen (2011), Floh & Madlberger (2013), Liu et al. (2013), Lo et al. (2016), Akram et al., (2018), Chen et al. (2019), Kimiagari & Malafe (2021), Zhang et al. (2022), Chen et al. (2022), Trivedi et al, (2022)
Products and its attributes (External Influences)	Product availability, variety of selection, sensory attribute, price, merchandise attractiveness, personalised recommended product quality	Verhagen & van Dolen (2011), Park et al. (2012), Liu et al, (2013), Ampadu et al. (2022)
Online sales promotions (External Influences)	Price discounts, bonus packs, countdowns.	Xu & Huang (2014), Lo et al. (2016), Sun et al. (2023)

Online reviews and Celebrity Influences (External Influences)	Online reviews, recommendations, online comments, social media celebrity posts, contextual interactions.	Zhang et al. (2018), Zafar et al. (2021), Hewei (2022), Sun et al. (2023)
Internal stimuli/ predictors of Online impulse buying	Web browsing behaviour, hedonic browsing, utilitarian browsing, impulsiveness, hedonic consumption, value shopping, needs, positive affect, mindfulness, self-control. E- Impulse buying tendency,	Park et al. (2012), Chih et al. (2012), Zhang et al.(2018), Vihari et al. (2022), Goel et al.(2022, Sun et al. (2023)

Table 8 represents various internal predictors that are studied in the literature across online as well as offline settings which specifically includes personality traits and impulse buying tendency.

Table 8. Predictors of impulse buying that are common across online and offline contexts

Predictors	Sub categories of associated constructs	References
Personality and traits (Internal influence)	Sociability, shyness, impulsivity traits, option framing, variety seeking behaviour, consumer traits, consumer impulsiveness (CI), Optimum Stimulation Level (OSL), Self-Monitoring (SM).	Sharma et al. (2010), Punj (2011), Liu et al. (2013),Olsen et al.(2016), Dhaundiyal et al.(2016), Chen et al.(2016), Atulkar et al. (2018), Abbott et al. (2023)
Impulse Buying Tendency (IBT)/ (E-IBT)	Impulse buying tendency(IBT) and e-impulse buying tendency as a determinant of impulsive buy.	Jones et al. (2003), Lee (2018)

5.2 Theme 2: Impulse buying on across various Platforms

The extensive literature on impulse buying behaviour represents a growth of studies on impulse buying on social commerce and live commerce sites which is expected to grow in the near future. Table 9 depicts the impulse buying studies on social commerce, mobile commerce and live commerce.

5.3 Theme 3: Impulse buying thriving during extreme situations

This subject contains considerable research on the association between Covid -19, anxiety, panic purchasing, and hence impulsive shopping during the pandemic, which was widely prevalent at the time as explainable by the studies represented in Table 9.

Table 9. Impulse buying studies across different Platforms and Situations

Platforms/ Situations	References
Social Commerce and Mobile Commerce	Xiang et al. (2016), Chen, J.V. et al. (2016), Leong et al. (2017), Ho et al. (2018), Leong et al. (2018), Chen et al. (2019), Chen, Y. H. et al (2019), Zafar et al. (2020), Djafarova et al. (2021), Kimiagari et al. (2021), Chen, S. et al. (20210, Hewei (2022), Chopdar et al. (2022), Han (2023), Zhang, Q. Y. (2023)
Live Commerce	Ye et al. (2022), Hewei (2022), Zhang, Z.F. et al.(2022), Zhang, X. P. et al.(2023), Gong et al. (2023), Fu et al.(2023), Li et al. (2023), Yan et al. (2023)

Covid-19

Naeem (2021), Goel et al. (2022), Wang et al. (2022), Chiu et al. (2022), Gawior et al. (2022), Yu (2022), Zhang, J. J. (2022), Lavuri et al. (2022)

6. Discussion and Implications

The purpose of the study is to review the extensive literature on impulse buying and offer suggestions and agendas for further research in this area. Impulse buying concept is well researched but very limited number of literature review studies were seen to be present in the search results. Among 151 articles only one study pertained to the review of literature on impulse buying.

This review identifies various predictors of online and offline impulse buying by categorising them separately. Subsequently, this study segregated impulse buying studies across different online platforms and situations. Based on the findings of the systematic literature review, research implications and recommendations for future research are summarised in the following paragraphs:

The findings of this article has two implications. First, it is necessary to strategically conceive, construct, develop, and implement the website attributes of the digital retail platform alongside its associated functionalities, with the aim of instilling a sense of ease and assurance among clients engaging in online transactions. Both electronic word of mouth and reviews have equal importance and should be integrated into online portals to aid customers in making informed selections based on social inputs. The second significant conclusion is for practitioners, who should do a thorough analysis of the factors influencing impulsive purchasing behaviour in both online and offline contexts. Several aspects, including customer demographics, environmental stimuli, utilitarian and hedonic needs, cultural influences, temptation, resistance, time constraints, and affective role, may be taken into account by retailers when formulating their marketing and sales strategy. By addressing these aspects, retailers can potentially enhance their long-term success.

7. Future Research Directions/ Agendas

This study provides a systematic literature review on impulse buying for last two decades. However, the following areas have potential for further study in this area.

7.1 Impulse Buying Across Cultures, Economies and Markets

The SLR reveals that most of the research publications are from China and USA, but less attention is given to conduct research on this concept in emerging markets and low income economies. This makes it important to conduct research across cross-cultural aspects, which are critical to comprehend due to the nature of impulsive buying specifically in online context. Most retailers sell their products and services globally, with little regard for geographical limits; therefore, understanding cross-cultural elements is critical in international retail. Nevertheless, previous research has examined cultural elements, although the specific domains of applicability have not been precisely delineated (Barros et al., 2019; Sharma et al., 2014), warranting more investigation.

7.2 Impulse Buying and Social Media

To get a deeper knowledge of its underlying truths, social commerce and impulsive purchase must be investigated further. The advent of social commerce has facilitated the process by which firms may effectively engage and entice individuals to visit their e-commerce platforms, ultimately motivating them to engage in spontaneous buying behaviour. Previous studies have examined the domain of social media marketing in relation to online buying, although there has been a relative dearth of scholarly investigation into the phenomenon of impulsive purchase (Xiang et al., 2016; Zafar et al., 2020; Zhu et al., 2020). Potential areas for future study might include investigating the phenomenon of impulsive purchasing within the realm of social commerce and live commerce. Such research endeavours may aim to develop strategies and approaches that companies can use in order to effectively allure, captivate, and convince clients to participate in impulsive purchase behaviours.

7.3 Measures of Impulse Buying

The systematic literature review (SLR) also indicates that extensive research has been conducted in both online and offline environments to comprehend the phenomenon of impulse buying. However, there is a scarcity of studies that have specifically concentrated on the development and validation of a multidimensional scale to directly measure impulse buying as a construct, rather than examining its antecedents and consequences. Hence, the present study proposes the development of a scale for measuring impulsive buying behaviour in both online and offline situations. This research endeavour holds significant implications for the academic community and future researchers.

8. Conclusion

This study conducted a systematic review of the current state of literature on impulse purchasing across platforms by conducting a bibliometric analysis of the academic literature on impulsive buying. Between the years 2003 and 2023, a comprehensive set of 151 papers was procured from the Web of Science database. These articles were then subjected to rigorous analysis using bibliometric methods, co-citation analysis, co-occurrence of keyword and theme analysis. The primary objective of this study was to discern and delineate the principal research trends prevalent within this particular topic. The result of the analysis revealed:

- a) Antecedents of impulse buying are different for online and offline scenarios. However, some of the antecedents are common across platforms/mediums.
- b) Impulse buying is seen to grow in coming years due to the social media and social commerce expansion.

The research identified the pertinent and notable authors, nations, author affiliations, highly cited articles, prominent journals, and keywords. Based on the thematic analysis, the paper proposed a research agenda for future studies on impulsive buying behaviour.

This study has several limitations. The selection of Web of Science as the preferred database was based on its relevance in contrast to other databases like Scopus, Google Scholar, and EBSCO. The variability of research outcomes may be influenced by the extraction of data from many sources. The disparity in search results may be attributed to the use of distinct keywords during data extraction. Furthermore, the data is only derived from a select group of 32 prominent publications, hence imposing limitations on the scope of the retrieved data. The study only incorporates research publications written in the English language while excluding conference papers, books and other review articles based on extraction criteria. While bibliometric analysis is useful for obtaining quantitative insights, this research made use of co-citation, co-word, and thematic analysis methods, in order to discover and analyse the underlying themes present in the literature on impulsive purchase. Hence, the process of outlining and identifying the clusters discovered in the research may be susceptible to bias.

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