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Who thought what for consumer behavior: A bibliometric analysis on the researches on consumer behavior during COVID-19

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Abstract---This paper reviews the researches done during the Covid-19 on consumer behavior by conducting a multi-keyword bibliometric analysis. The authors tried to look at what researches were trending and reviewed the top-cited papers and what they talked about. The authors contributed to formulating a new ratio in the bibliometric analysis, citation/document ratio, which gives a better picture of the quality of research done under any domain. In conclusion, top trends of research under Covid-19 and consumer behavior were mentioned using content analysis.

Keywords---COVID-19, consumer behavior, bibliometric analysis.

Introduction

Covid-19 pandemic hit on a global level, and what concurrently hit was the trend of research done under the Covid-19 domain. The contribution towards the research done under Covid-19 was enormous. A single search on the Scopus database using the keyword Covid-19 gives a hit of two lakh thirty-three thousand papers related to Covid-19. Such enormity in the research field triggered the question of the research done under Consumer Behavior for Covid-19. Donthu proposed a method of conducting bibliometric analysis. He specified four steps, define scope, identify techniques, data retrieval, and run analysis (Donthu et al., 2021). A bibliometric analysis is an excellent way to look at past

research and analyze it in a structured format. This paper does a multi-keyword Scopus Database search using Covid-19 and Consumer Behavior and reports the top trends of researches done under the domain. The authors also contributed towards the formulation of a ratio; citation/document ratio within the bibliometric analysis, which gives a quality of research produced by any country, person, journal etc. In the end, content analysis is done of the top-cited papers understanding what trended during the dreaded period.

Bibliometric Analysis

Bibliometric analysis is a structured process of reviewing past studies using different analyses; this paper utilizes VoS viewer to conduct bibliometric analysis. First, Scopus is selected as a database for conducting bibliometric analysis. The keyword used for the search was Covid 19 and Consumer Behavior; the date range selected was 2011-Present; the source type used was journals with document type used was articles only. Having subject areas as Business, Management, and Accounting, 221 papers were retrieved in the CSV format. The next process is to import the CSV file into VoS viewer and retrieve information about the top authors for papers, top countries producing these papers, trends in the academic industry for the selected keywords. Also, top associated keywords and top papers are analyzed to understand the crux of the top studies conducted in the selected keywords. Bibliometric analysis is then coupled with content analysis to find out where further studies can be done. Table 1 shows the summary of the filters used for retrieving the database of papers from Scopus.

Table 1
Data Retrieval from Scopus database

Filter Used in Scopus	Selection of the Parameters
Keyword	Covid 19 and Consumer Behavior
Year	2011-2021
Source Type	Journals
Document Type	Articles
Language	English
Subject Area	Business, Management and Accounting (Scopus)
Total Number of Articles	221(Scopus)

The Trends

Since Covid 19 started to become a pandemic in the year 2020, so there was a gradual increase in the number of papers between the years 2020 to 2021. A sudden drop in the papers from 2021 to 2022 is looking because only a few papers are in the prepublication phase and will be published in 2022. The trends in the paper are increasing (Figure 1), with the maximum number of papers being written on Economics followed by social sciences, decision sciences, psychology, environmental sciences etc. (Figure 2).

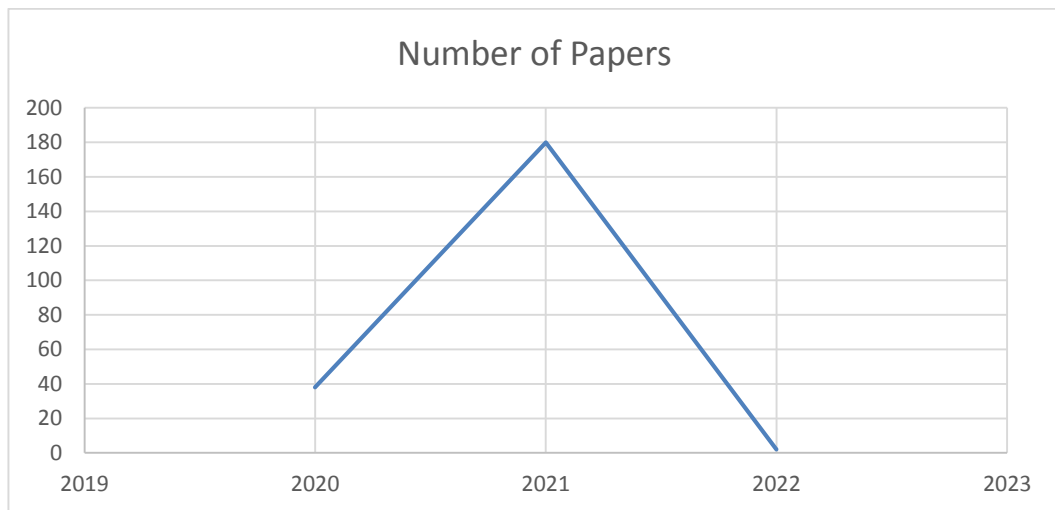


Figure 1. Trends of Papers in Covid-19 and Consumer Behavior

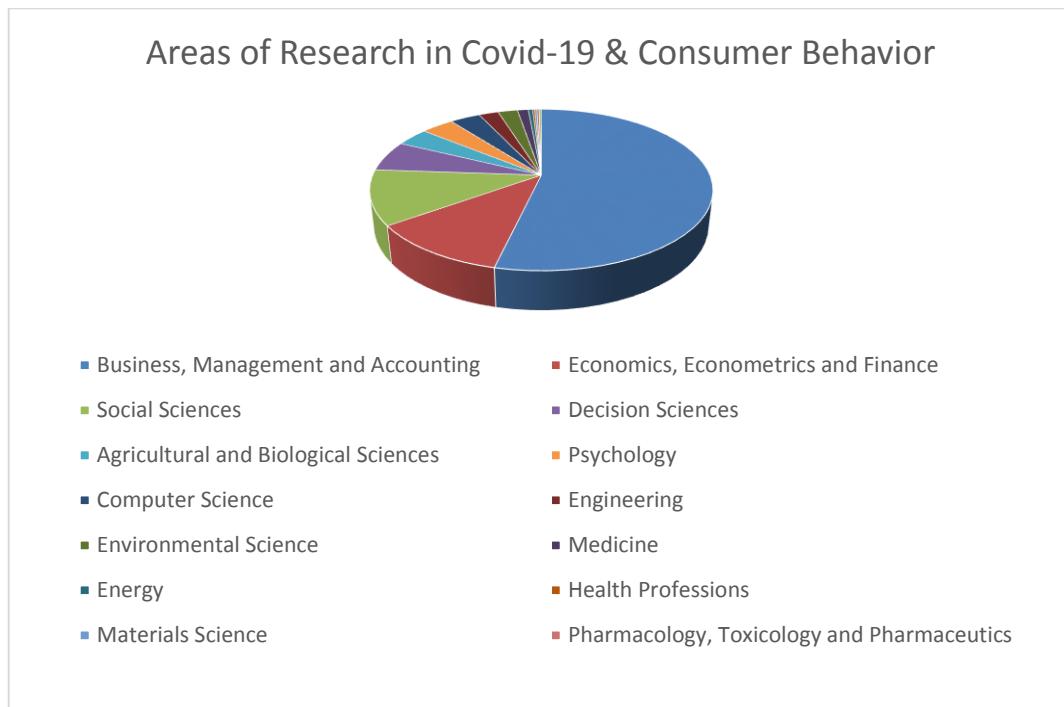


Figure 2. Subject-wise distribution of papers on Covid-19 and Consumer Behavior

The Who's Who of COVID 19 and Consumer Behavior

Jagdish Sheth is the top author who has written a paper on the Impact of Covid 19 behavior on consumer behavior (Sheth, 2020). Sheth was followed by Mr. Amandeep Dhar, who jointly wrote a paper with Samuli Laato, A.K.M. Najmul Islam, and Ali Farooq on unusual purchasing behavior during the early stages of Covid 19 (Laato et al., 2020). Looking at the density visualization (Figure 3), it is

seen that most of the authors have worked independently, and only an intense concentration is present in and around Kim J, which signifies a higher number of documents by the author. This paper introduces the concept of documents/citation ratio, which can be defined as the ratio of the number of citations an author has versus the number of documents she/he has produced over a period of time. Looking at the citation/document ratio, Dr. Jagdish Sheth tops the list.

Table 2
Top Authors

Serial Number	Author	Documents	Citations
1	Sheth J.	1	209
2	Dhir A.	3	138
3	Pantano E.	2	114
4	Pizzi G.	2	114
5	Dennis C.	1	113
6	Farooq A.	1	113
7	Islam A.K.M.N.	1	113
8	Laato S.	1	113
9	Scarpi D.	1	113
10	Kirk C.P.	1	111
11	Rifkin L.S.	1	111
12	Prentice C.	3	74
13	Wang Y.	2	73
14	Kang J.	1	72
15	Shin H.	1	72

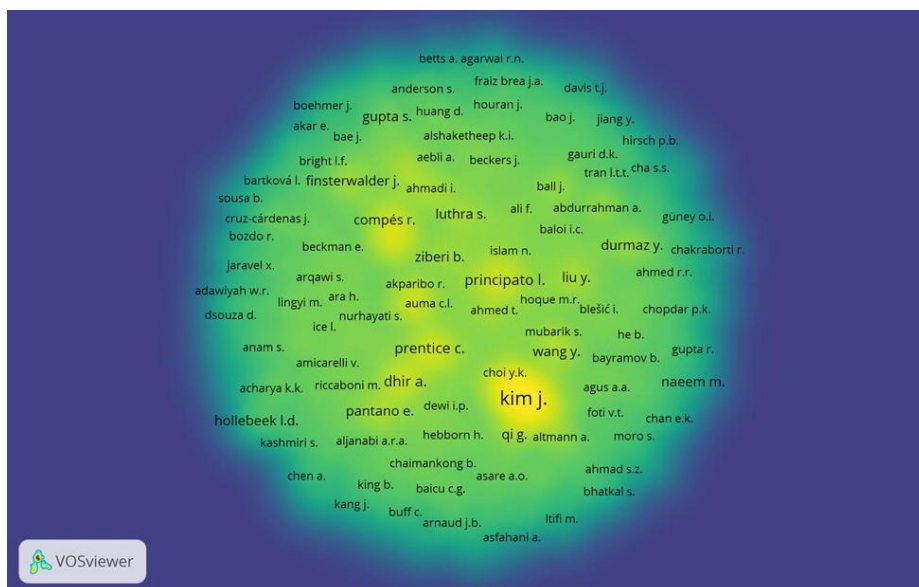


Figure 3. Density Visualization Chart for Authors of Covid -19 and Consumer Behavior

Table 3 shows that the United States has the highest number of citations for research done in consumer behavior under the Covid-19 topic, followed by the United Kingdom, South Africa, etc. Again, looking at the citation/documents ratios for countries, South Africa tops the list, followed by South Korea and New Zealand.

Table 3
Top Countries

Serial Number	Countries	Documents	Citations
1	United States	57	440
2	United Kingdom	25	319
3	South Africa	6	202
4	Italy	14	188
5	South Korea	11	162
6	Australia	12	156
7	India	21	108
8	China	19	99
9	New Zealand	7	97
10	Viet Nam	5	58
11	Spain	11	37
12	Turkey	9	29
13	Germany	9	26
14	France	7	25
15	Romania	5	22

The Source Analysis

It is imperative to understand that which journal is publishing research related to the field under the study. It seems that for consumer behavior and Covid-19, the Journal of Business Research tops the list with the highest citations of 434. Journal of Business Research is followed by Journal of Retailing and Consumer Services, International Journal of Hospitality Management etc. Looking at the aim and scope of the journals, the Journal of Business Research Published articles from multidisciplinary domains, whereas the Journal of Retailing and Consumer Service publishes for the service industry. Similarly, the International Journal of Hospitality Management publishes studies for hospitality and tourism domain, British Food Journal Publishes for food and beverage industry. Hence it can be safely concluded that the studies on consumer behavior related to Covid 19 are multidisciplinary in nature.

Table 4
Top Journals

Serial Number	Journal Name	Documents	Citations
1	Journal Of Business Research	5	434
2	Journal Of Retailing And Consumer Services	17	353

approach' with 113 Scopus citations (Laato et al., 2020). A total of 1075 citations were done from the top fifteen papers in the past two years.

Table 5
Top papers of Covid-19 and Consumer Behavior

Serial Number	Papers	Citations
1	Impact of Covid-19 on consumer behavior: Will the old habits return or die?	209
2	Unusual purchasing behavior during the early stages of the COVID-19 Pandemic: The stimulus-organism-response approach	113
3	Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak	113
4	I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 Pandemic	111
5	Reducing perceived health risk to attract hotel customers in the COVID-19 pandemic era: Focused on technology innovation for social distancing and cleanliness	72
6	Beyond panic buying: consumption displacement and COVID-19	61
7	Panic buying in the COVID-19 Pandemic: A multi-country examination	59
8	Supply chain sustainability: learning from the COVID-19 Pandemic	55
9	Do social media platforms develop consumer panic buying during the fear of Covid-19 Pandemic	53
10	Timed intervention in COVID-19 and panic buying	50
11	COVID-19 Generation: A Conceptual Framework of the Consumer Behavioral Shifts to Be Caused by the COVID-19 Pandemic	42
12	Caring more about food: The unexpected positive effect of the Covid-19 lockdown on household food management and waste	40
13	Transforming the (tourism) world for good and (re)generating the potential 'new normal'	38
14	Managing the effectiveness of e-commerce platforms in a pandemic	34
15	A change of perceived innovativeness for contactless food delivery services using drones after the outbreak of COVID-19	25

Jagdish Sheth, in his paper, tried to understand how the consumer's habit would change after the Covid-19 Pandemic. He divided his conclusion into three parts, old habits: consumers would be going back to their old habits, new habits: where the consumers adopt new habits, and finally modified habits in which they have modified their old habits according to their needs. He said that habits would

change depending on policy regulations (Sheth, 2020). Laato, in his paper on fear of consumers in market disruption, built a structural model and tested it on structural equation modeling, and found out that information sources did not affect intention to make unusual purchases. However, it did increase cyberchondria and ultimately affected consumers' health (Laato et al., 2020).

In his paper on the role of retailers during the Covid-19 Pandemic, Pantano reimagined the role of retailers and termed them as essential workers during the period (Pantano et al., 2020). He also pointed out that during the Covid-19 Pandemic, customers should be at the core of the retail sector. In his paper on coping and adapting to the new norms, Kirk analyzed the buying behavior during the pandemic. He analyzed the hoarding behaviors, changes in the perception of the brands, and how consumers are becoming more self-reliant during the Pandemic (Kirk et al., 2020). Shin and Kang observed the perceived health risk in consumers when going to hotels in a pandemic. They modified the perceived risk theory and measured the impact of hotel cleanliness on hotel booking intention. They also suggested modifying the practices observed by the hospitality industry (Shin & Kang, 2020).

Hall and Prayag saw the consumption displacement pattern in panic buying and concluded that though the earthquake temporarily displaced consumption patterns, the characteristics during the Covid-19 Pandemic differed. Also, consumption became more localized, which raises a serious question, and further research needs to be done on the same (Hall et al., 2021). Similarly, Tahir conducted a multi-country examination for panic buying behavior and concluded that scarcity among consumers increased panic buying behavior in an overall scenario (Islam et al., 2021). In his paper on the impact of social media on increasing panic buying behavior, Naeem observed that consumers followed the instructions given by the government, but panic buying did occur after some posts were shared on various platforms. Most of the posts originated from the U.S.A and China (Naeem, 2021). Prentice did a sentiment analysis on the buying behavior during Covid-19 and found that sentiments peaked during March and April and were positive towards panic buying (Prentice et al., 2020).

Zwanka, in this research on reviewing the change in consumer behavior because of the cataclysmic events, proposed a conceptual framework proposing ways for marketers to be ready for permanent consumer behavior in case of such events (Zwanka & Buff, 2021). In his paper on understanding food wastages and the positive effect of Covid-19 on food wastage, Principato found out that the amount of food wastages has reduced during the Covid-19 (Principato et al., 2020). Tran tried to develop a systematic framework for the perceived effectiveness of e-commerce platforms (PEEP) and found out a positive effect of pandemic fear on PEEP, economic benefits, and consumption (Tran, 2021). Finally, In his paper for analyzing consumer behavior for drone food delivery services, Kim modified the theory of planned behavior by adding a new construct, perceived innovativeness, and checking its relations to other constructs of TPB (Kim et al., 2021).

Most of the researches were descriptive, and only thirty-three percent of the studies were empirical. Seventy-three percent of the top-cited papers on consumer behavior and Covid-19 are related to FMCG products, especially food

products. Thirty-three percent of papers were related to panic buying. Theories used in the top-cited papers consisted of Gratification Theory, Theory of Planned Behavior, Panic Buying Theory, Psychological Contract Theory, and Psychological Reactance Theory.

Conclusion

The trend of papers on Covid-19 under the domain of consumer behavior is increasing. Jagdish Sheth became the top author for the specific domain having 209 citations and a citation/document ratio of 209:1. Similarly, South Africa tops the list in citation/document ratio. Journal of Business Research came out to be the top journal producing five documents with 434 citations and looking at the type of research, it was seen that the research was multidisciplinary. According to co-occurrence analysis, consumption Behavior, E-Commerce and Panic Buying were among the highest occurred keywords.

Amongst the top-cited papers, seventy-three percent of the papers were from the FMCG sector, and thirty-three percent were related to panic buying (Islam et al., 2021; Kim et al., 2021; Laato et al., 2020; Prentice et al., 2020; Principato et al., 2020). Theories used included Theory of Planned Behavior, Panic Buying Theory, Gratification theory, etc. Furthermore, the majority of the studies looked at the change in consumer behavior pre and post covid era, and the trend continues till the present, and most of the studies were concerned about the post covid permanent change in behavior. Finally, most of the studies were descriptive with formulization of conceptual framework, which paves the way for more empirical research under the consumer behavior domain for the Covid-19 pandemic. Authors have also contributed to a new bibliometric analysis ratio: citation/document ratio, which signifies the quality of research produced by a person/country/journal.

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