

META ANALYSIS OF CONSUMER BEHAVIOR CHANGES DURING THE COVID-19 PANDEMIC RESEARCH

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ABSTRACT

The aim of this study is (1) to analyse the development of consumer behaviour research during the Covid-19 pandemic (2) to identify theoretical and empirical contributions from the results of research on consumer behaviour during the Covid-19 pandemic. Co word analysis with VOS Viewer used to answer the first research objective, and quantitative analysis was used to answer the second research objective. The results show that the development of consumer behaviour research during the Covid-19 pandemic is mostly related to the exploration of changes in the types of needs, types of products and priorities of consumer needs during the Covid-19 pandemic. On the other hand, research that needs to be developed is changing online consumer purchasing decisions; Consumer buying behaviour is related to psychological factors, product choice (mainly fresh food ingredients and staple foods), Consistency in purchasing; consistency of changes in consumer habits; awareness and consideration of consumer risk and consumer behaviour during a pandemic. Fundamental theories used in this research include theory of Fear Appeal, Maslow, TAM and TPB. The results showed that there was a model development through the S-O-R computational decision tree ensemble model with Bagging.

Keywords: *Bibliometric, Covid 19, Consumer Behavior.*

INTRODUCTION

The COVID-19 pandemic has not only effected the health sector, but also in many other fields, including the economic sector, especially marketing. Changes in consumer behavior as an effect of Covid 19 pandemic have been identified in various studies. The implementation of the lockdown and social distancing policies has changed various

consumer habits in shopping. These include how to shop, priorities and how much spending allocated (Eger et al, 2021; Güney et al Sangün, 2021).

In marketing, the study of consumer behavior is positioned as an important study, this is because consumer behavior reflects various important things related to the important and constant decision-making process in finding, buying, using, evaluating, and disposing of products and services (Valaskova et al., 2015). Consumer behavior is predictable, and there are many predictive models and good consumer insights based on past repeat buying behavior at the individual level (Jagdish et al, 1999). On the other hand, consumer behavior can also be viewed as a study related to the social conditions of the community itself and it is also related to individual factors. The relationship between consumer behavior and individuals can show how decisions are made by consumers in certain groups, for example different generations (Solomon, 2016). This emphasizes the important position of consumer behavior studies in marketing. Therefore, researchers are trying to find research gap on changes in consumer behavior during the Covid-19 pandemic so that they can contribute both theoretically and practically.

Bibliometric can be developed to support the dynamic development of social science through both quantitative and qualitative interpretations. Therefore, bibliometric studies are important for scientific progress. This is shown by its role in formulating conceptual progress for each scientific topic, renewing themes and identifying research gaps as well as looking for changes in the study (Rodríguez et al, 2019). Bibliometrics can assist and guide researchers to find specific research theme. On the other hand, bibliometrics insight researchers with additional knowledge of relevant topics (Ramirez, David, & Brusco, 2013; Chabowski, Samiee, & Hult, 2013). In addition, another function of the bibliometric function that must be considered is the selection of journals that have a greater impact on the scientific community (Theubl et al., 2014).

In this study, a meta-analysis study aims to synthesize and review journals that have been conducted in the field of consumer behavior during the Covid 19 pandemic focusing on themes, theories, research methodologies, and research results. Researchers conducted a bibliometric review based on two research questions (1) how was the development of consumer behavior research during the Covid 19 pandemic that had been carried out (2) what were the theoretical and empirical contributions made by research on consumer behavior during the Covid 19 pandemic

RESEARCH METHOD

The study used quantitative and qualitative analysis. Qualitative analysis is used to find words, terms or sentences that are most closely related to consumer buying behavior during the Covid 19 pandemic. Quantitative analysis is used to determine the distribution of research in terms of themes, methods, theories and research results. Both quantitative and qualitative analyzes aim to answer developments and contributions made by consumer behavior research during the COVID-19 pandemic.

This study follows the protocol for the bibliometric analysis method introduced by Fahimnia et al. (2015). The protocol consists of five steps, including: (1) defining research keywords; (2) get the initial search results; (3) narrowing the search results; (4) compiling initial data; and (5) analyze the data. To get a more comprehensive analysis result, an Excel workbook was created to dissect and code the objective content, theoretical framework, and methodology of the selected articles.

The first step is to find articles with topics that are relevant to the purpose of this research. For accessibility reasons, PoP software version 7 and Google Shcolar were used to collect data. The PoP software comes from Tarma Software Research Pty Ltd., Melbourne (Bensman, 2011). To ensure that all relevant articles are covered in this stage, by using the keywords and titles "consumer behavior", "consumer decision making", "purchasing behavior" and "Covid 19". This step intended to ensure that the selected articles discuss relevant themes and study topics, namely consumer behavior in the era of the Covid 19 pandemic. Other aspects, such as the year of publication, were not included in the search due to the limited number of articles.

In conducting the research, Google Scholar was chosen as the database because of its accessibility, as well as the ability to provide more articles for analysis. In the initial stage, a total of 54 articles were obtained, with a publication period starting from 2020 to 2021. The final results in the step of narrowing the search results used for this research were 19 research journal articles indexed by Scopus in Q1, Q2, Q3 and Q4 in 2020 and 2021. The following is the composition of journal reputation by year of publication.

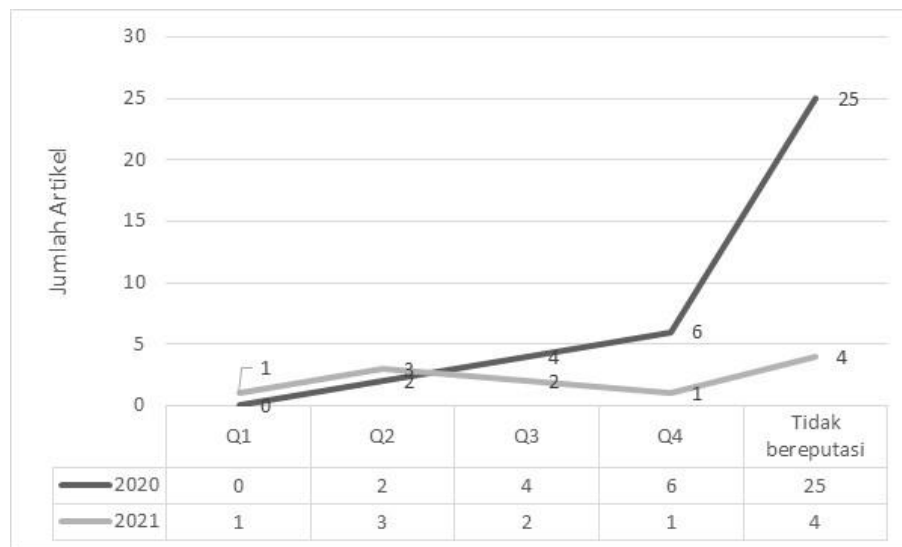


Figure 1. Composition of Journal Reputation on the Theme of Consumer Behaviour During the Covid 19 Pandemic

DATA ANALYSIS

Co Word Analysis

Co word analysis was carried out by searching through the Google Scholar database from Publish or Perish / PoP (<https://harzing.com/>). The PoP findings are then exported to Excel for manual selection. Dimana kriteria yang digunakan adalah seluruh jurnal yang terpublikasi pada Scopus index ranking Q1–Q4). Next, the journals selected via excel are then exported to EndNote (<https://www.myendnoteweb.com/>). Then we used text-mining techniques on the title, abstract, and keyword of the article to get a research map (Van Eck & Waltman, 2010).

The results of the co word analysis aim to determine the relationship between the theme and other themes (shown by lines and colors). Each different color indicates a different cluster. The following is the result of co word analysis with VOS Viewer

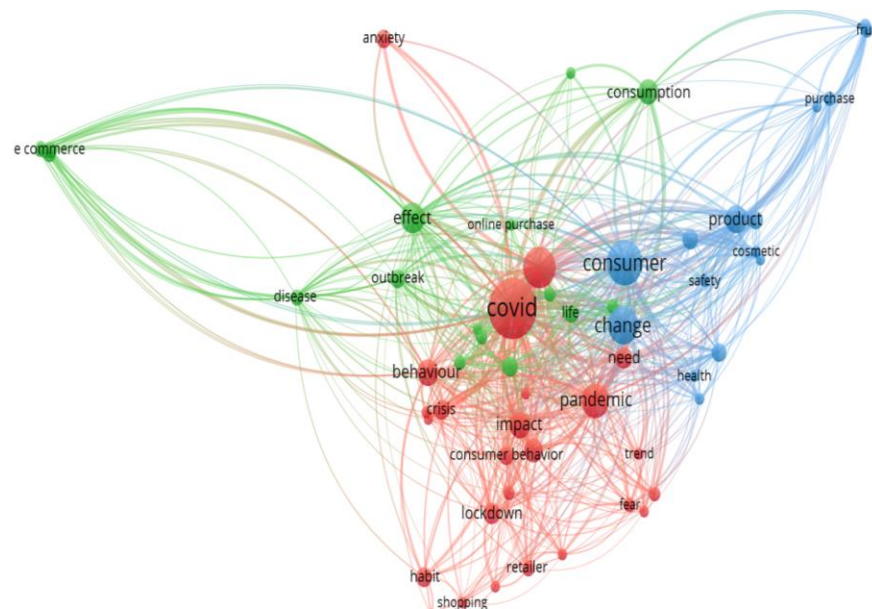


Figure 2. Display of co word analysis of research developments on consumer behavior themes during covid 19

Theme Density Analysis

The second stage of data processing with VOS Viewer is theme density analysis. Density analysis is one of the outputs generated from analysis using VOSViewer together with Co word analysis with the same input from EndNote. The theme density analysis aims to determine the density of themes that appear in consumer behavior research during Covid 19. This density can be seen from the different colors that appear, where yellow is the highest while turquoise is the lowest density.

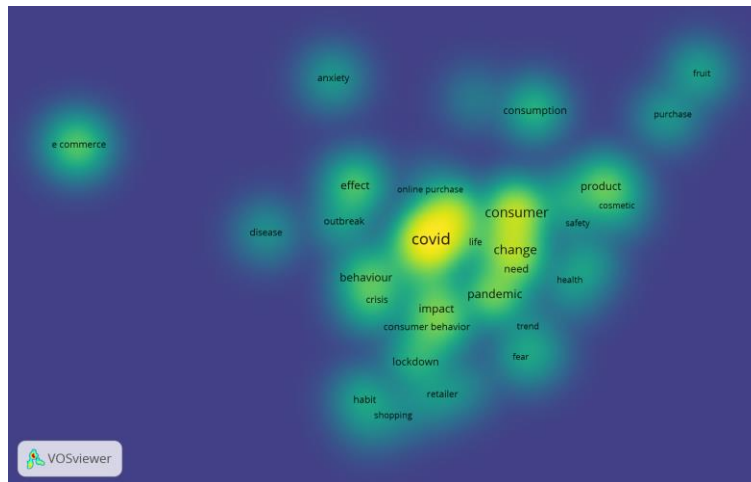


Fig. 3. Density visualization display of research developments on the theme of consumer behavior during covid 19

Theoretical and Empirical Contribution Analysis

To find the theoretical and empirical contributions we used a qualitative analysis. This step uses an interpretive and organic approach to get a deeper and richer context meaning, as proposed by Apriliyanti and Alon (2017). Each journal is reviewed by researchers to then identify the theoretical and empirical contributions made. The results of this study are then presented in what is shown in the appendix.

RESULT AND DISCUSSION

Co Word Analysis

Co word analysis was carried out by searching through the Google Scholar database from Publish or Perish / PoP (<https://harzing.com/>). The PoP findings are then exported to Excel for manual selection. Dimana kriteria yang digunakan adalah seluruh jurnal yang terpublikasi pada Scopus index ranking Q1–Q4). Next, the journals selected via excel are then exported to EndNote (<https://www.myendnoteweb.com/>). Then we used text-mining techniques on the title, abstract, and keyword of the article to get a research map (Van Eck & Waltman, 2010).

Co-Word on Consumer Behavior Changes During The Covid-19 Pandemic Research

To find out the relevance of the main themes in the research on changes in consumer behaviour, we used the VOSViewer program in the form of bibliometric maps. This method forms the cluster / theme of their research. Thus, it can be seen which

themes are the most closely related and vice versa. This will help formulate research themes that can be developed in further research (Indarti et.al., 2020).

The results of the co word analysis show in Fig.2. that there are three clusters formed, namely: Cluster one consists of the keywords anxiety, behaviour, consumer behaviour, consumer shopping behaviour, Covid, crisis, economic instability, essential good, fear, habit, human behaviour, impact, lockdown, need, pandemic, preference, retailer, safety measure, shopping, shopping behaviour, transformation, transformation, trend, virus pandemic, world. The first cluster is indicated by a red line. This cluster describes research themes related to psychological well-being; economy; needs orientation as indicated by various changes in consumer shopping behaviour.

Cluster two consists of the keywords consumer's intention, consumption, coronavirus, coronavirus pandemic, disease, e-commerce, economy, effect, external pressure, government, government support, life, online purchase, online shopping, outbreak, risk, supply chain. The second cluster is indicated by a green line. This cluster describes a research theme related to how consumer behaviour during the restrictions period is highly dependent on government policies.

The third cluster consists of the keywords buying behaviour, change, consumer, consumer buying behaviour, cosmetic, cosmetics product, fruit, health, market, pandemic crisis, product, purchase, safety, selection and vegetable. The third cluster is indicated by a blue line. This cluster describes the choice of ways and types of products that have changed. Consumers prefer to shop online or shop at the nearest store. In other cases, consumers pay more attention to the types of products that support health and have product safety guarantees

Discussion of Theme Density in Consumer Behavior Changes During The Covid-19 Pandemic Research

The results of the analysis on themes that have a high density are related to the exploration of changes in the types of needs, types of products and the priority of consumer needs after the Covid 19 pandemic (indicated by the words need, change and product) as shown in Fig.3. The high density indicates that research related to changes in product types and choices of shopping methods has been widely carried out.

Other findings indicate that there is a theme that has a low density related to changes in consumer purchasing decisions online (indicated by the words e-commerce, online purchase); related to psychological conditions (indicated by the words anxiety, fear); related to the purchase of fresh foodstuffs and staple foods (indicated by the keyword fruit); related to the consistency of changes in consumer habits (indicated by the word habit); consumer risk awareness and consideration (indicated by the word health); consumer behavior during times of crisis (indicated by the word crisis). The analysis shows that there is still a lot of need to explore how online shopping behavior changes; shopping behavior is associated with changes in psychological conditions; shopping

considerations orientation (eg product safety and health orientation); consumer behavior during times of crisis (eg during health, financial or economic crises)

Discussion of Theoretical and Empirical Contributions to Consumer Behavior Changes During The Covid-19 Pandemic Research

Qualitative analysis shows that the theoretical and empirical contributions of selected research are: First, theoretical development is carried out on the Fear Appeal theory (Eger et al, 2021). The results showed that the increased fear of changes in consumer shopping behaviour. The greater the fear, the easier it is for consumer shopping behaviour to change. The theory of fear appeal itself discusses three related conceptions, namely perceived efficacy, threat, and fear (Lai, 2016). According to Wegmann et al. (2017) that this theory identifies categories into fear control and hazard control, where fear control revolves around emotional reactions caused by risk and hazard control directs the customer's adaptive behaviour to avoid it. This theory contrasts with other theoretical studies that encourage purchases from the utility and hedonic side. The conditions faced by consumers during the Covid 19 pandemic became the right research setting to see how fear, worry and anxiety affect consumer behaviour;

The identification results show that another theoretical contribution is the use of Maslow's theory (Dwivedi and Badge, 2021). The results showed that social needs before the lockdown period were higher, while during the lockdown there was a change in needs. This is shown by prioritizing security needs. The results of this study provide an overview of how conditions during the pandemic change the types of needs that are prioritized to change. It just needs to be further identification how the needs change along with the unstable conditions experienced by consumers during the pandemic. For example, at the beginning of the pandemic, the lockdown period, or the estimate after the pandemic subsides.

Another theoretical contribution is shown by the use of insight through the theory of TAM and TPB (Salem et al 2020). TAM itself is often used to determine consumer acceptance of online shopping technology (Davis, 1989). The results showed that the factors of PU, risk taking propensity, PBC, perceptions of lack of alternatives, and government support significantly influenced consumers' intention to adopt e-commerce. Meanwhile, PEOU, SN, perceived external pressure, perceived risk, and perception of punishable violation have no significant effect on consumers' intention to adopt e-commerce.

Second, the empirical benefits provided in the various journals included in the analysis are: Changes in shopping at online stores compared to previously shopping at brick mortar stores, the tendency to choose to shop for raw (and healthy) foods and the positive relationship of food waste to purchases (Guney et al. , 2021); the possibility of behavior using debit and credit cards to change again after seven days (Jo, 2021);

Changes in purchasing healthy food and beverages, online use; changing the type of gadget to access online services (Jílková, 2021); exploration of factors that consumers consider during the COVID-19 pandemic (Sehgal et al, 2021); understand consumer sentiment or need in buying 'what is enough' and its impact (Mehta et al, 2020); Changes in consumer preferences to choose retailers to shop for basic necessities. Especially in spending on fast moving consumer goods, bakery and groceries (Pathak et al, 2020); changes in cosmetic buying behavior among Indian working women during COVID 19-19.

There has been a change in the type of product before and after the Covid 19 Sharma (2020) pandemic. In addition to theoretical and empirical contributions, the researchers identified a model development, namely through the S-O-R model (Marinković et al 2021) and decision tree ensemble computing with Bagging (Safara et al, 2020)

CONCLUSIONS AND SUGGESTIONS

The aim of this study is (1) to analyze the development of consumer behaviour research during the Covid 19 pandemic that has been carried out (2) to identify the theoretical and empirical contributions provided by consumer behavior research during the Covid 19 pandemic. To answer the first research objective, the researcher used co word analysis with VOSViewer. Meanwhile, to answer the second research objective, the researcher used quantitative analysis.

The results showed that the development of consumer behaviour research during the Covid 19 pandemic was mostly related to the exploration of changes in the types of needs, types of products and priorities of consumer needs after the Covid 19 pandemic. On the other hand, research that needs to be developed is changing consumer purchasing decisions online; related to psychological conditions; relating to the purchase of fresh foodstuffs and staple foods; relating to the consistency of changing consumer habits; awareness and consideration of consumer risks and consumer behaviour during times of crisis

Identification of the use of theory in research is the theory of Fear Appeal, Maslow's theory, TAM and TPB theory. Most of the research is carried out on empirical benefits. In addition to theoretical and empirical contributions, the researchers identified the existence of a model development, namely through the S-O-R model of computational decision tree ensemble with Bagging.

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