

THE PROPOSITION OF CONSUMER SELF-CARE CONATION UNDER THE BACKDROP OF COVID-19

Lim Soon Chow^{1*}

¹ Department of Business Studies, New Era University College, Malaysia
Email: joelim_s_chow@yahoo.com

* Corresponding Author

Article Info:

Article history:

Received date: 28.04.2021

Revised date: 17.05.2021

Accepted date: 31.05.2021

Published date: 10.06.2021

To cite this document:

Lim, S. C. (2021). The Proposition of Consumer Self-care Conation Under The Backdrop of COVID-19. Journal of Tourism, Hospitality and Environment Management, 6 (23), 42-52.

DOI: 10.35631/JTHEM.623005.

This work is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)



Abstract:

The impact of COVID-19 on consumers' purchase behaviour is relatively new in the purchase decision body of knowledge. This study aims to postulate a research proposition that looks into consumers' fear and purchase conation during the pandemic crisis. This study leveraged a small-scale preliminary study through a snowball self-administrative survey to serve as an initial inquiry to understand the perceived COVID-19 relevant information that affects the Malaysian consumers' affective state and Vitamin C's purchase the COVID-19 crisis. A brief discovery informed that the respondents were emotionally influenced by COVID-19 relevant information on social media and its incredible impact on affective reaction and motivation to practice self-care.

Keywords:

COVID-19, Self-Care, Consumer Behaviour, Affective Emotions

Introduction

Since the COVID-19 pandemic evolving in Malaysia compelled Movement Control Order (MCO 1.0) was enforced on March 18, 2020, with prudent legislation and non-pharmacological measures enforcement has raised awareness of COVID-19 indirectly drives opportunities to the importance of strengthening the immunity system as the defensive mechanism to fight against diseases and shape a healthy lifestyle. Several initiatives activated nationwide by the government to curb the spread of COVID-19 and balance the nation's economy, such as the

Conditional Movement Control Order (CMCO) and Recovery Movement Control Order (RMCO).

As of 2020 total of 113,010 confirmed cases reported by the Ministry of Health Malaysia, the COVID-19 shows no certainty when it will end, from the observation period in writing this editorial as of January 22, 2021, reported accumulative 176,180 COVID-19 cases across the country and the second control movement (MCO 2.0) were activated since January 12, 2021, due to the continued surge of confirmed cases. One of the prominent effects of pandemic foster of new normal was changing daily consumer lifestyle with a surgical mask on face and consumer purchase of self-health products. Recently published article on Malaysian nutrient intakes that drives from the Malaysian adult nutrition survey 2003 and 2014 revealed that Malaysian are heading to a healthy lifestyle with more protein intake and reduced carbohydrate consumption with the benchmark of the Malaysian nutrient recommendations; however, tremendous efforts are needed to promote and achieve a balanced diet (Zainuddin et al., 2019). The advocacy of self-health causes the surge of vitamins sales during a pandemic indicates that consumers learn that vitamin is the fundamental self-care therapeutic option during the COVID pandemic to keep themselves healthy. The researcher started the initiative to understand consumer choice of food effects of the COVID-19 pandemic (Agyei-Amponsah et al., 2020), surgical mask-wearing behaviours (Knotek II et al., 2020), change of shopping behaviour (Li et al., 2020), adaptation of online purchase of food (Gao et al., 2020), the unusual purchase of toilet paper patterns during COVID-19 disruptive crisis (Kirk, & Rifkin, 2020) and little known about the antecedent of consumer purchase of vitamin C under the effects of COVID-19 pandemic. Past studies are majorly based on the demographic, media influences, advertisements (Chen et al., 2017) before exposure to the COVID-19 pandemic concerning purchase behaviour prediction. The shift of consumer purchase sentiment inspires the present study in the context of a pandemic. It is paramount to understand that the factors that drive consumer purchase of vitamin C are permanent or transient. It is interesting to delve into the other possible factors that might contribute to the overall results. This initial inquiry aims to understand the factors that drive consumers to purchase vitamin C during the pandemic headwind. The expected results will significantly impact the business sustainability of marketing reinforcement strategies of post-COVID.

Background

A review conducted by Laato et al., (2020) found that the theoretical foundation of pandemics on consumer behaviour still in the infant stage, the past studies relevant to the epidemic of Ebola and Swine-flu (Influenza A H1N1) on human behaviour used the protection-motivation theory and the RANAS (Risks, Attitudes, Norms, Abilities, and Self-regulation) model (Mosler, 2012). Laato et al., (2020) found that the impact of Cyberchondria on the consumer through the extensive information exposure and little contextual literature for practitioners to confront the unprecedented dramatic change, especially the consumer demand of necessities becoming unpredictable where the supply chain, demand forecast, production planning jeopardized much (Roggeveen & Sethuraman, 2020). Researchers believe that the COVID-19 triggered new normal bring significant impact on consumer behavioural change in the future (Zwanka & Buff, 2021). An adequate understanding of the implications caused by COVID-19 bring tremendous opportunities in the future; therefore, the infant stage of exploration is vital to set a sound foundation for practitioners to valorize both business decision and strategy planning.

Mehta, Saxena, and Purohit (2020) foreshadow that COVID-19 will shift consumer behaviour, particularly the young generation that has transformed the new normal. The new normal transformation that fostered consumers become more mobile in work and daily life. Therefore, the change is inevitable in managing marketing activities with highly specialized targeted focus as the consumer will shift priority in their purchases with the resources that they have due to the implications of the corona crisis caused higher unemployment, the surge in contactless buying through e-commerce, and change of brand preferences and, the shift of wellness and hygiene lifestyle drastically (Kohli et al., 2020). COVID-19, in this regard, manifest the collective consciousness amongst Malaysian consumers where the purchase of vitamin C at the retail pharmacy or online marketplaces during the pandemic crisis refers to the group's behaviour as a whole rather than the separate identities of its members (Indraganti, Namita & Khanna, 2020). This astonishing purchase behaviour occurred since COVID-19 happening concealed the unknown motivation forces that triggered this unusual purchase behaviour. This study attempts to review relevant literature and the influence of COVID-19 on consumers' purchase behavior of Vitamin C under the unprecedented event that causes collective consciousness where it is multifaceted and challenging to explain by an overarching theory.

Information seeking and receiving is the primitive stage of purchase decision-making, 85 percent of the consumers will seek relevant information before buying dietary supplements, and the internet is the primary source of information (Nathan et al., 2020). Extensive information available on internet platforms such as social media, formal news channels, and informal communication channels; upon digesting the information, each individual gives meaning to the news concerning COVID-19. Kirk and Rifkin (2020) agreed that the psychological factors which arise from COVID-19 impact consumers' attitudes and behaviours are equally important.

COVID-19 Information

During or in the on-going pandemic phenomena, consumers are influenced by the information relevant to COVID-19. Industry revolution is in the pipeline; however, the COVID-19 pandemic has expedited the adaption of technology and digitalization in consumers' daily lives, cultivating the habit of acquiring information through digital media directly. Electronic word of mouth (eWOM) has become prominent. A recent study of 350 respondents found that consumers' purchase decisions are majorly influenced by eWOM (Danniswara, Sandhyaduhita, and Munajat, 2020). The eWOM is vastly disseminated through various social media where enabling Malaysians to access it easily.

Meanwhile, Malaysia has been recognized as a highly collectivist society (Teo and Mohd Noor, 2015; Arfa Adlina, 2012); as such manifested the eWOM influential power, which implied that socialites and social communications greatly influence amongst consumers. Kim and Johnson (2016) postulated that social media content significantly influences consumer emotion and could trigger behaviour reactions. Hudson et al., (2015) studies on social media-based content relate to emotional attachments to brands show persuasive evidence of social media's concealed great influencing power.

COVID-19 and Consumer Emotion

Fischer, Shaver, and Carnochan (1990) categorized emotions into narrow subcategories that extended to positive and negative; from the positive emotion further delineated into love (comprises fondness and infatuation) and joy (comprises bliss, contentment, and pride). The

negative emotion through anger (comprises annoyance, hostility, contempt, and jealousy), sadness (comprises agony, grief, guilt, and loneliness), and fear (comprises horror and worry). Researches worldwide show concerns of the psychological implication of COVID-19 influence people mental health and hence attempt to quantify the fear impact of COVID-19 through the development of a precise measurement scale towards the fear imposed by COVID-19 (Ahorsu et al., 2020).

The daily announcement of the infected rate and the infected patients sharing experience at the quarantine centre exacerbated fears emotion; thus, this might be the ultimate driver in making the self-care nutrition products purchase decision as to the preventive measure at the same time amplifying the personal hygiene and the myths of nutritional remedies to prevent COVID-19 infection. Under the COVID-19 backdrop witnessed consumers lean towards hygiene and self-care products. Recent research reveals that COVID-19 patients have low levels of vitamin C and vitamin D, where this implied the risk of low levels of vitamin C and vitamin D appeared co-dependent risk factors for mortality (Arvinte, Singh & Marik, 2020). The Euromonitor International November 2020 market report has shown a sharp spike in the Vitamins and Dietary Supplements Category, which in the year 2019 grew 44% (MYR 3,189 million sales) versus the baseline of 2015 (MYR2, 220 million) and 2020 estimated to grow 61% equivalent to MYR 3,571 million sales. Leading to strong sales growth in the nutrition market and majorly caused by widespread preventive measures from the Ministry of Health and pharmaceutical companies in advocating strengthening the immunity system as such vitamin C enhances the immune system as the first line of defense against the millions of potential pathogens we are exposed to every day (Jafari et al., 2019). Google trend analysis found that people extensively search for immune-related nutrients through google search; those top countries were the Philippines, Malaysia, Indonesia, Jamaica, and the United Arab Emirates, actively searching for vitamin C relevant information (Katherine, 2020). However, the thoughts provoking question is to what extent consumers shift to more consumption of health and wellness products in the long run. On the surface, self-care product consumption has raised the bar of average consumption rate; however, is this truly reflects the real consumer awareness of self-health. Optimistically, COVID-19 has incubated numerous marketing opportunities.

Fear and Purchase Behaviour

Consumers buying patterns during COVID-19 were significantly affected by the crisis and the policies implemented to curb the pandemic (Hall et al., 2020). The lockdown or control movement implementation in many countries has evoked negative emotions and behaviour. Panic buying is one of the many psychological factors associated with insecurity (Arafat et al., 2020). Table 1 reveals the recent COVID-19 relevant consumers panic buying behaviour primary affected by the amount of information about COVID-19 which during this period people are actively searching and exposing to COVID-19 relevant information from internet resources inclusive of social media. Excessive information about COVID-19 trigger information overload and caused anxiety hence stimulated the self-help mechanism of stockpiling. Consumers might not know to differentiate the information sources' reliability; hence might worsen the individual psychological impact.

Table 1: Relevant COVID-19 Panic Buying Literature

Authors	Theories/Methods	Studies factors	Findings
Islam et al., (2021)	Stimuli-Organism-Response and Competitive Arousal model	<ul style="list-style-type: none"> • Time scarcity (volume of products available) and • Time scarcity (available time to make a purchase) • Social Media use during COVID-19 • Impulsive buying 	<p>Fear of scarcity is the primary antecedent to impulsive buying.</p> <p>Excessive social media use develops Cyberchondria</p>
Naeem, M. (2021)	Collective responses, Global capitalism, information society, social proof and social influence	<ul style="list-style-type: none"> • Exchange of information through social media inclusive production, reproduction, coordination and dissemination • Panic buying 	Social media is the main culprit in trigger stockpiling through social proof.
Arafat et al., (2020)	Content analysis	<ul style="list-style-type: none"> • COVID-19 information on media content typology 	COVID-19 relevant content inclusive positive and negative elicit people emotions and reflect panic buying as responses indication to the news reported on media.
Barnes et al., (2020)	Compensatory control theory	<ul style="list-style-type: none"> • Anxiety and fear • Lack of perceived control • Purchasing • Government announcement • Utilitarian 	The absence of perceived control was driven by people's anxiety, moderated by government announcements. This lack of perceived control steering the purchasing decision, with utilitarian qualities playing a negative moderation role.
Yuen et al., (2020)	Systematic review	<ul style="list-style-type: none"> • Individual Perception • Fear of unknown • Coping behavior • Social psychological factors 	The review reveals that the perceived threat to health and inadequate product supply, fear of uncertainty triggered emotional responses, panic buying is the avenue to release anxiety and feel control over the crisis, and the individual's attitude and behaviour that influence society.
Du et al., (2020)	Protective behavior	Health-related knowledge Fear-related emotions Panic buying	People exposed to more COVID-19 prevalence rates information people were more active in searching health-

Authors	Theories/Methods	Studies factors	Findings
			related information where subsequently caused the negative emotions and conation of panic buying.

An exciting result found on the google trends tracking in Malaysia with the search of “Vitamin C” keyword through google search engine, which provides an index ranging from 0 (representing the volume of a specific keyword with least popular search) to 100 (informing the most popular search of a specific keyword). This power index shows the popularity of the intended information search by an individual during a specific period.

Figure 1 the google trends tracking results of Vitamin C keyword search shown the highest index 95 in the year 2020 which the first Movement Control Order (MCO 1.0) announcement on 16th March 2020, which the results show the massive search of Vitamin C relevant information and the second wave of Movement Control Order (MCO 2.0) on 13th January 2021. The true affirmative reflected Barnes et al., (2020) findings on the effect of government announcement impact on people behaviour.

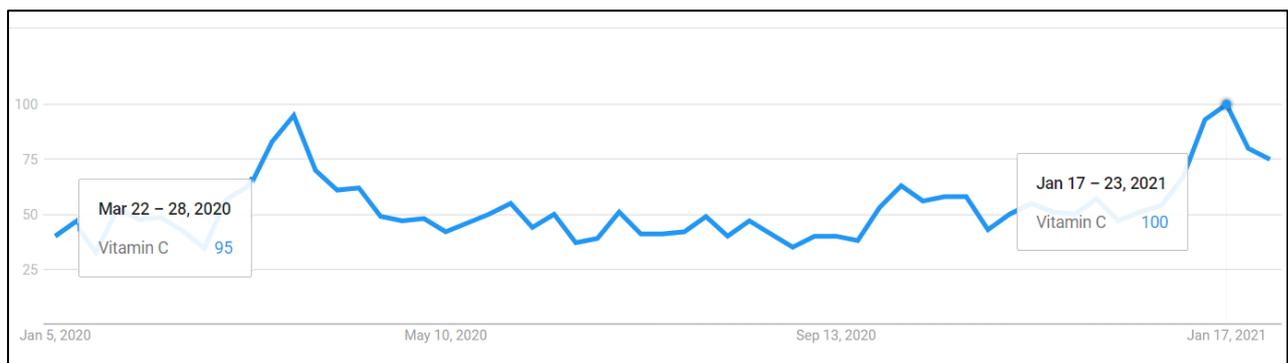


Figure 1: Google Trends Tracking With The Keyword Of “Vitamin C”

Therefore, the unusual consumer purchase sentiment disrupted the supply chain due to the stockpiling behaviour (Barnes et al., 2020). There in this preliminary study aims to strengthen the concept of COVID-19 fear and the purchase of self-care products by collecting feedback from the community before executing the large scale of empirical study. Indeed, limited relevant information and literature are available due to the novelty of COVID-19; therefore, the initial conceptual validation is essential to provide a more in-depth understanding before the complex scientific study, suggesting:

Proposition: The fear emotion has a more significant role in determining Vitamin C's purchase during the COVID-19 pandemic.

Method

The objective of this study is to verify the initial conceptual framework developed from the current observation. The present preliminary study applies snowball sampling through the WhatsApp messenger application in distributing the self-administered e-questionnaire, where it is solely voluntary, and no sensitive personal and identifiable information was obtained. From January 23 to January 28, 2021, seven days duration started to complete the snowball

recruitment after the initial ten respondents seeding. An explicit declaration was stated on the questionnaire about the criteria (1) Malaysian Citizen age 18 years, and above, (2) has at least one social media account such as Facebook, Instagram, Twitter, etc., and (3) Purchased and consumed Vitamin C since COVID-19 occurred.

A total of 60 responses were received; therefore, descriptive analyses were performed based on the final respondents acquired after the stipulated cut-off. Ahorsu et al. (2020) the fear of COVID-19 scale was adopted in this preliminary study and added three items to suit the study objective. Volunteer indicate their level of agreement with the statements using a five-item Likert-type scale. Answers comprise "1=strongly disagree," "2=disagree," "3=neither agree nor disagree," "4=agree," and "5=strongly agree."

Results and Discussion

Table 2 illustrates the mean, median, mode, and standard deviation scores of the survey statements. The results were found using SPSS for descriptive statistics analysis. The descriptive results shown in table 2 indicate that mean of question one is 3.95 with a standard deviation of 0.999; this question reflecting the fear is frequently evident. Afraid is the psychological affective that will influence consumer behavior change on the pandemic episode (Balkhi et al., 2020). Each of the affective mind states serves a purpose that helps consumers make evaluation and decisions (Zeelenberg et al., 2008). Fear is circumspect, where the magnitude of the fear state will determine the individual reaction toward a noxious event. Some marketing campaigns employed fear reinforcement to remind people to avoid dangerous behaviour such as gruesome photos on a cigarette (Cunningham, 2009). Logically the consumer purchase decisions based on a practical cognitive evaluation, the afraid state emotion can be overwhelmed by the functional assessment (Galoni, Rao & Carpenter, 2020).

The second highest mean score of uncomfortable thought of COVID-19 registered 3.63 and standard deviation of 1.073, and this might explain the classical conditional theory where the news relevant to COVID-19 served as the conditioned stimulus where the daily infected rate, the death rate, and the accumulated infected population elicited the uncomfortable feeling resulting from the unconditioned stimulus.

The third highest mean value 3.63, and standard deviation of 0.956 informed that respondents were hoping to consume Vitamin C in improving the immunity system. Vitamin C was widely amplified during the COVID-19 outbreak as the mechanism in the management of COVID-19 (Abobaker, Alzwi, and Alraied, 2020). In improving the immunity system, Vitamin C could be the content advocacy on social media and formal news channels that cultivate threat avoidance behaviour. Thus, it implicitly helped the retail pharmacy sales of Vitamin C where the sudden surge of Vitamin C sales influenced by the fear of COVID-19.

Following the worries of losing life scored a mean 3.55 with a standard deviation of 1.111; this potentially implied that COVID-19 significantly impacts the individual affective state that potentially triggers depression illness in the long-term (Cox et al., 2001) instead of physical reactions. Aforesaid indicatively implied that consumers' affective reactions were influenced by individual cognitive ability in processing COVID-19 relevant information. This mental activity will subsequently provoke emotions.

Tremendous COVID-19 relevant information shared on various channels like social media and formal news caused people are inevitably exposed to the latest information. Statement five registered a mean score of 3.13 and a standard deviation of 0.965. Provided the preliminary validation about the COVID-19 contents on social media causes people to become nervous or anxious. A study on Malaysian social media use per day reported 40.5% of the respondents attached to social media more than four hours daily (Zhang et al., 2020), enabling every user to create and massively share information significantly impact people behavior (Cinelli et al., 2020). The group on the neutral position will potentially be influenced later day with the increasing exposure of COVID-19 content (Mertens et al., 2020).

All the items used in the instrument (questionnaire) were based on a 5-point Likert scale; therefore, the mean values greater than 3.00 show a significant positive trend; hence, the result shows the intensity and strength variables that are negatively skewed. In the mean score respect, statements eight, ten, three, seven, and six scored mean values below 3.00. Standard deviation is also significant as it indicates the deviation from the mean value. Here standard deviation varies from 1.186 to 0.956, which shows that most of the observations fall around the mean value for all the variables. The present study provided brief yet eloquent discovery insights; therefore, a longitudinal study might clarify the sustainability and superiority of COVID-19 information through social media in influencing the purchase of Vitamin C. To marketing practitioners, it potentially shed light on the allocation marketing investment for post-COVID-19 during or after the pandemic on virtual channels, where leveraging on the COVID-19 relevant content to conduits the goodness of nutritional products.

Table 1: Descriptive Statistics

Statements	N	Mean	Std. Deviation	Rank
S1 - I am most afraid of coronavirus-19	60	3.95	0.999	1
S2 - It makes me uncomfortable to think about coronavirus-19	60	3.63	1.073	2
S9 - I am hoping Vitamin C can strengthen my immunity system	60	3.63	0.956	3
S4 - I am afraid of losing my life because of coronavirus-19	60	3.55	1.111	4
S5 - When watching news and stories about coronavirus-19 on social media, I become nervous or anxious	60	3.13	0.965	5
S8 - I purchase of Vitamin C because of the fear of COVID-19	60	2.98	1.081	6
S10 - Consumption of Vitamin C can comfort my emotion	60	2.73	0.972	7
S3 - My hands become clammy when I think about coronavirus-19	60	2.68	1.186	8
S7 - My heart beat raise when I think about getting coronavirus-19	60	2.63	1.008	9
S6 - I cannot sleep because I'm worrying about getting coronavirus-19	60	2.32	0.983	10
Valid N (listwise)	60			

Conclusion

Under the COVID-19 crisis, extreme massive transformations across society were shown regardless of culture, race, and educational level. This preliminary study unveiled that consumer fear is the primary factor that cultivated the unusual purchase patterns of self-care products. Based on the relevant theory interpretation from the consumer behaviour perspective, Vitamin C's unusual behaviour given a chance to awaken and educate the consumers about the long-term preventive practices from internal and external is equally essential. Theoretically, consumers will continue the post-pandemic self-care practices.

Undeniable physical and emotional well-being are equally important, particularly during a pandemic; therefore, practicing self-care becomes necessary through challenging times. Major adjustments require adapting to the new normal where remarkable resilience is needed to confront the challenging period. Valuable potential research areas are lining up in the upcoming future to understand the negative and positive implications caused by COVID-19. The present study sheds light on the quantum of behavioural change under spontaneous crises and how competence is the marketers could react to the sudden surge of consumers' expectations in demand of self-health products.

References

- Abobaker, A., Alzwi, A., & Alraied, A. H. A. (2020). Overview of the possible role of vitamin C in management of COVID-19. *Pharmacological Reports*, 1-12.
- Agyei-Amponsah, J., Owureku-Asare, M., & Katiyo, W. (2020). Consumer Food Preferences and Drivers amongst Ghanaians: Effect of the COVID-19 Pandemic. *Current Journal of Applied Science and Technology*, 119-129.
- Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The fear of COVID-19 scale: development and initial validation. *International journal of mental health and addiction*, 1-9.
- Arafat, S. Y., Kar, S. K., Marthoenis, M., Sharma, P., Apu, E. H., & Kabir, R. (2020). Psychological underpinning of panic buying during pandemic (COVID-19). *Psychiatry research*.
- Arafat, S. Y., Kar, S. K., Menon, V., Kaliamoorthy, C., Mukherjee, S., Alradie-Mohamed, A., ... & Kabir, R. (2020). Panic buying: An insight from the content analysis of media reports during COVID-19 pandemic. *Neurology, Psychiatry and Brain Research*, 37, 100-103.
- Arfa Adlina, A. (2012). Malaysia & the collectivist culture: Malaysian studies. Kolej Yayasan UEM, Malaysia. Retrieved from <http://www.slideshare.net/ArfaAyob/malaysia-and-collectivism>
- Arvinte, C., Singh, M., & Marik, P. E. (2020). Serum levels of vitamin C and vitamin D in a cohort of critically ill COVID-19 patients of a north American community hospital intensive care unit in May 2020: A pilot study. *Medicine in drug discovery*, 8, 100064.
- Balkhi, F., Nasir, A., Zehra, A., & Riaz, R. (2020). Psychological and behavioral response to the coronavirus (COVID-19) pandemic. *Cureus*, 12(5).
- Barnes, S. J., Diaz, M., & Arnaboldi, M. (2020). Understanding panic buying during COVID-19: A text analytics approach. *Expert Systems with Applications*, 114360.
- Chen, C., Hou, C., Xiao, J., Wen, Y., & Yuan, X. (2017). Enhancing purchase behavior prediction with temporally popular items. *IEICE TRANSACTIONS on Information and Systems*, 100(9), 2237-2240.

- Cinelli, M., Quattrociochi, W., Galeazzi, A., Valensise, C. M., Brugnoli, E., Schmidt, A. L., ... & Scala, A. (2020). The covid-19 social media infodemic. *Scientific Reports*, 10(1), 1-10.
- Cox, B. J., Enns, M. W., Freeman, P., & Walker, J. R. (2001). Anxiety sensitivity and major depression: Examination of affective state dependence. *Behaviour Research and Therapy*, 39(11), 1349-1356.
- Cunningham, R. (2009, August). Gruesome photos on cigarette packages reduce tobacco use. Retrieved January 28, 2021, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2733268/>
- Danniswara, R., Sandhyaduhita, P., & Munajat, Q. (2020). The impact of EWOM referral, celebrity endorsement, and information quality on purchase decision: A case of Instagram. In *Global Branding: Breakthroughs in Research and Practice* (pp. 882-905). IGI Global.
- Du, H., Yang, J., King, R. B., Yang, L., & Chi, P. (2020). COVID-19 Increases Online Searches for Emotional and Health-Related Terms. *Applied Psychology: Health and Well-Being*, 12(4), 1039-1053.
- Durrell, K. (2020). Google searches for nutrients including vitamins and zinc rise during lockdowns. Retrieved December 23, 2020, from <https://www.nutritioninsight.com/news/google-searches-for-nutrients-including-vitamins-and-zinc-rise-during-lockdowns.html>
- Euromonitor International (2020). *Consumer Health in Malaysia: November 2020*.
- Fischer, K. W., Shaver, P. R., & Carnochan, P. (1990). How emotions develop and how they organise development. *Cognition and emotion*, 4(2), 81-127.
- Galoni, C., Rao, H., & Carpenter, G. S. (2020). In a Pandemic, We Buy What We Know. Retrieved January 28, 2021, from <https://hbr.org/2020/11/in-a-pandemic-we-buy-what-we-know>
- Gao, X., Shi, X., Guo, H., & Liu, Y. (2020). To buy or not buy food online: The impact of the COVID-19 epidemic on the adoption of e-commerce in China. *PloS one*, 15(8), e0237900.
- Hall, M. C., Prayag, G., Fieger, P., & Dyason, D. (2020). Beyond panic buying: consumption displacement and COVID-19. *Journal of Service Management*. 32(1), 113-128.
- Indraganti, P. K., Namita, I., & Khanna, A. (2020). Does collective consciousness has a role in radiation mass exposures and epidemics?. *Frontiers*, 3, 1-4.
- Islam, T., Pitafi, A. H., Arya, V., Wang, Y., Akhtar, N., Mubarik, S., & Xiaobei, L. (2021). Panic buying in the COVID-19 pandemic: a multi-country examination. *Journal of Retailing and Consumer Services*, 59, 102357.
- Jafari, D., Esmailzadeh, A., Mohammadi-Kordkhayli, M., & Rezaei, N. (2019). Vitamin C and the Immune System. In *Nutrition and Immunity* (pp. 81-102). Springer, Cham.
- Kim, A. J., & Johnson, K. K. (2016). Power of consumers using social media: Examining the influences of brand-related user-generated content on Facebook. *Computers in Human Behavior*, 58, 98-108.
- Kirk, C. P., & Rifkin, L. S. (2020). I'll trade you diamonds for toilet paper: Consumer reacting, coping and adapting behaviors in the COVID-19 pandemic. *Journal of Business Research*, 117, 124-131.
- Knotek II, E., Schoenle, R., Dietrich, A., Müller, G., Myrseth, K. O. R., & Weber, M. (2020). Consumers and COVID-19: Survey Results on Mask-Wearing Behaviors and Beliefs. Economic Commentary.

- Kohli, S., Timelin, B., Fabius, V., & Veranen, S. M. (2020). How Covid-19 Is Changing Consumer Behaviour—Now and Forever. Mckinsey & Company.
- Laato, S., Islam, A. N., Farooq, A., & Dhir, A. (2020). Unusual purchasing behavior during the early stages of the COVID-19 pandemic: The stimulus-organism-response approach. *Journal of Retailing and Consumer Services*, 57, 102224.
- Li, J., Hallsworth, A. G., & Coca-Stefaniak, J. A. (2020). Changing grocery shopping behaviours among Chinese consumers at the outset of the COVID-19 outbreak. *Tijdschrift voor economische en sociale geografie*, 111(3), 574-583.
- Mehta, S., Saxena, T., & Purohit, N. (2020). The New Consumer Behaviour Paradigm amid COVID-19: Permanent or Transient?. *Journal of Health Management*, 22(2), 291-301.
- Mertens, G., Gerritsen, L., Duijndam, S., Salemink, E., & Engelhard, I. M. (2020). Fear of the coronavirus (COVID-19): Predictors in an online study conducted in March 2020. *Journal of Anxiety Disorders*, 74, 102258.
- Ministry of Health Malaysia. <https://www.moh.gov.my/>
- Mosler, H. J. (2012). A systematic approach to behavior change interventions for the water and sanitation sector in developing countries: a conceptual model, a review, and a guideline. *International Journal of Environmental Health Research*, 22(5), 431-449.
- Naeem, M. (2021). Do social media platforms develop consumer panic buying during the fear of Covid-19 pandemic. *Journal of Retailing and Consumer Services*, 58, 102226. 1-10.
- Nathan, J. P., Kudadjie-Gyamfi, E., Halberstam, L., & Wright, J. T. (2020). Consumers' information-seeking behaviors on dietary supplements. *International Quarterly of Community Health Education*, 40(3), 171-176.
- Roggeveen, A. L., & Sethuraman, R. (2020). How the COVID-19 pandemic may change the world of Retailing. *Journal of Retailing*, 96(2), 169-171.
- Teoh, C. W., & Mohd Noor, N. A. (2015). What affects Malaysian consumers' intention to purchase hybrid car?. *Asian Social Science*, 11(26), 11-26.
- Yuen, K. F., Wang, X., Ma, F., & Li, K. X. (2020). The psychological causes of panic buying following a health crisis. *International Journal of Environmental Research and Public Health*, 17(10), 3513.
- Zainuddin, A. A., Nor, N. M., Yusof, S. M., Irawati, A., Ibrahim, N., Aris, T., & Huat, F. L. (2019). Changes in energy and nutrient intakes among Malaysian adults: findings from the Malaysian Adult Nutrition Survey (MANS) 2003 and 2014. *Malaysian Journal of Nutrition*, 25(2), 273-285.
- Zeelenberg, M., Nelissen, R. M., Breugelmans, S. M., & Pieters, R. (2008). On emotion specificity in decision making: Why feeling is for doing. *Judgment and Decision making*, 3(1), 18-27.
- Zhang, S. X., Graf-Vlachy, L., Looi, K. H., Su, R., & Li, J. (2020). Social media use as a predictor of handwashing during a pandemic: evidence from COVID-19 in Malaysia. *Epidemiology & Infection*, 148, e261, 1-5.
- Zwanka, R. J., & Buff, C. (2021). COVID-19 generation: a conceptual framework of the consumer behavioral shifts to Be caused by the COVID-19 pandemic. *Journal of International Consumer Marketing*, 33(1), 58-67.