

LITERATURE REVIEW: PSYCHOLOGICAL FACTORS AFFECTING ONLINE SHOPPING BEHAVIOR DURING THE COVID-19 PANDEMIC

¹Olivia Safira Maharani*, ²Nabila Jilan Ulayya, ³Wahyu Rahardjo
^{1,2,3} Faculty of Psychology Gunadarma University
Jl. Margonda Raya No. 100, Depok 16424, Jawa Barat, Indonesia
¹oliviasafira40@gmail.com, ²nabilajilan18@gmail.com,
³wahyu_r@staffsite.gunadarma.ac.id
*Corresponding author: ¹oliviasafira40@gmail.com

Abstract

The COVID-19 pandemic can be defined as more than just a health crisis as it has a strong impact on society and the economy. The COVID-19 outbreak has dramatically changed shopping behavior, which was originally visiting and buying offline, now became online. Several studies indicate that new habits formed now will endure beyond this crisis, permanently changing what we value, how and where we shop; The purpose of this study is to identify psychological factors that may promote and influence online shopping behavior during the COVID-19 pandemic. The method used is a literature review where the author collects 23 journals from the digital library and Google Scholar and then concludes the results of the related topics. The results showed that there are five psychological factors, including (1) positive perceptions of the use of web online shopping; (2) online shopping self-efficacy; (3) negative emotion factors and fear of COVID-19; (4) motivation to adapt; and (5) social influence. This research can be useful for sellers or producers to get good business by paying attention to the psychological side of consumers in online buying and selling transactions during the pandemic.

Keywords : COVID-19; Online shopping behavior; Pandemic; Psychological factors

This article was presented at the UG Economic Faculty International Conference 2021, 14th-15th December 2021

INTRODUCTION

The Coronavirus disease (COVID-19) pandemic has triggered a strong global increase in the adoption of online activities that are replacing face-to-face activities (Eurofound, 2020; Nguyen et.al, 2020; Pierce, Perrin, Tyler, McKee, & Watson, 2021; Wijesooriya, Mishra, Brand, & Rubin, 2020). During the current COVID-19 pandemic, governments and citizens have changed their behavior to prevent the spread of COVID-19 or reduce its severity (Geiger 2007; Gul & Guneri 2015; Shiwakoti, Sarvi & Rose, 2008). Global lockdowns, social distancing, and other measures introduced to limit the spread of the COVID-19 pandemic have urged consumers to buy more in online marketplaces (Alessa, Alotaibie, Elmoez, & Alhamad, 2021).

The fear of the pandemic has notably influenced consumer perceptions of the economic and environmental benefits of e-commerce platforms (Tran, 2021), so non-cash payments via smartphones were gaining popularity (Andrieu, 2001) since WHO has suggested using digital money wherever possible, as physical money can be a medium for the virus if touched by an infected person (Brown, 2020). Due to the effect of this

pandemic, consumers switch to making purchases with low contact (online) (Hohtoulas, Phan, Mheen, & Kwan, et al., 2020), such as using online for food delivery, isolating individuals more than in the past, and switching to less sharing food, clothing, and any items that could transmit the virus (Zwanka & Buff, 2020). In addition, consumers may be motivated to shop online because of its usefulness and enthusiasm (Nguyen, et al., 2020).

From these data, it can be seen that the COVID-19 pandemic can be defined as more than just a health crisis as it has had a strong impact on society and the economy. The COVID-19 outbreak has dramatically changed the way we work, communicate, and shop, more than any other distraction this decade (Despin, 2020). Consumer behavior and marketing have also changed significantly (Beaunoyer et al., 2020; Zhao & Bacao, 2020; Mason, Brown, Mason, & Narcum, 2021). In particular, shopping preferences and behaviors may vary according to different circumstances, trends and emerging situations, such as holiday seasons, online shopping festivals, nuclear accidents, resilience, and earthquakes (Hoang, 2017).

The COVID-19 crisis differently affects people's willingness to buy necessities (i.e., utilitarian shopping) and non-necessities (i.e., hedonic shopping) products (Larson & Shin, 2018). Although public priorities have been more focused on meeting basic needs, consumers have embraced new behaviors and behaviors to overcome uncertainty such as digital transformation and low-touch operations, including grocery delivery ordering (Accenture, 2020), there are significant improvements sales for non-necessities categories like entertainment products (Degli, Mortara, & Roberti, 2021). Products that bring comfort and coziness to living spaces are attracting more attention than usual (Abid & Jie, 2021).

The purpose of this study is to identify psychological factors that may promote and influence online shopping behavior during the COVID-19 pandemic. This research can be useful for sellers or producers to get good business by paying attention to the psychological side of consumers in online buying and selling transactions during the pandemic. Researchers hope that this research can provide insight and literature review on the development of science, especially in the field of economic psychology related to online shopping behavior during the pandemic. Therefore, we conducted a literature study to explain especially what psychological factors can affect online shopping behavior during the COVID-19 pandemic.

LITERATURE REVIEW

Adopting social learning theory, which highlights the importance of individuals' perceived locus of control (Rotter, 1966). Consumers' locus of control indirectly affects the way they shop during the pandemic. In particular, consumers' internal (external) locus-of-control drives higher (lower) online shopping and greater (lower) social distancing behavior. In turn, consumers' online shopping behavior was found to increase during the pandemic, with their corresponding intent to continue this behavior in the future.

The concept of locus of control was first put forward by Rotter in 1966 who is a social learning theorist (Feist & Feist, 2010). Locus of control refers to a belief that a person can control a life event with his own abilities (Strauser, Ketz & Keim, 2002). In other words, locus of control can be defined as one of a person's thoughts that power or forces outside his own control are very influential in positive or negative situations that occur during his life (Sardogan, 2006). According to Brownell (1982) locus of control is the degree to which a person accepts personal responsibility for what happens to them. Locus of control is also defined as a person's perception of the source of his destiny (Robbins & Judge, 2008).

The locus of control is divided into two types, internal and external locus of control (Kreitner & Kinicki, 2001). Internal locus of control refers to the perception that events, both positive and negative, occur as a consequence of one's own actions or actions and are under self-control (Robbins & Judge, 2008) such as choices or behavior (Rotter, 1990), while external locus of control refers to the belief that an event does not have a direct relationship with one's actions by himself and beyond his control (Lefcourt, Martin, Fick, & Saleh, 1982). The internal (vs. external) locus of control over people is expected to be a decisive factor in the response to certain events, including those triggered by COVID-19 (Itani & Hollebeek, 2021).

Based on the explanation above, it can be concluded that locus of control is a concept that shows an individual's beliefs about events that occur in his life. In the context of a pandemic and online shopping, individuals are said to have an internal locus of control because they believe that the current covid pandemic is under their control. This means that they can face the COVID-19 pandemic as challenges and threats that arise from the environment and try to solve problems with online shopping so as to reduce the spread of the COVID-19 virus. While individuals who have external locus of control are individuals who believe that external factors or the COVID-19 pandemic have an influence that controls themselves on what happens in life so that it is easier to feel threatened, give up and helpless when facing the COVID-19 pandemic. Such individuals will see difficult problems as a threat to themselves.

RESEARCH METHOD

Procedure

This study uses a literature review method with a narrative review approach. Journals obtained by researchers comes from Cogent Business Management database; Journal of Internet Commerce; De Economist; Travel Behavior and Society; Technological Forecasting & Social Change; PLoS ONE; ABC Research Alert; Procedia Computer Science; Journal of Theoretical and Applied; Electronic Commerce Research and Applications; Journal of Retailing and Consumer Services; Global Business Review; Food Control; Sustainable Cities and Society; Publishing Research Quarterly; Psychoidea; Clothing and Textile Research Journal; Journal of Public Health; and Journal of International Consumer Marketing. In total there are 30 articles that match COVID-19, online shopping behavior, pandemic and psychological factors keyword with the criteria of original research, academic journal, publication year from 2020 to 2022 and has a complete structure of journal number, journal volume and journal publisher. And we selected 23 articles based on inclusion criteria.

Analyzed Data Criteria

Data on this study were analyzed by content analysis. The results of the literature show that online shopping behavior is influenced by various psychological factors, so that each individual's online shopping behavior is different during the pandemic. From the various factors found, we classified similar inclusion data according to the measured results to answer the objectives of this study.

RESULTS AND DISCUSSION

From some of the literature that we have reviewed, it was found that there are several factors that can affect online shopping behavior during the pandemic, which we present in the Table 1 below.

Table 1. Selected findings from literature

| Authors (year) | Significant findings |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aji, Berakon & Husin (2020) p.4 | In general, perceived trust and risk might be the key factors determining mobile payment adoption |
| Akar (2021) p.392 | We found the significant impact of customers' pandemic-related concerns on their intentions, attitudes, perceived behavioral control, and subjective norms. |
| Alhaimer(2021) p. 19 | Such compelling factors trigger fear among people, and this fear has proved to be a decisive factor in altering people's attitude and behavior. In practical terms, people do not question the level of ease relevant to online shopping but do their best to avoid the virus or being penalized by the government for ignoring the lockdown rules. |
| Al-hattami (2021) p.11 | The study determined and confirmed the significant influence of perceived usefulness, satisfaction, perceived TTF, and trust on the continuance usage intention of online shopping during COVID-19. In other words, the obtained results imply that the higher level of perceived usefulness, satisfaction, perceived TTF, and trust in online shopping under COVID-19 help continue retaining existing consumers and attract new and potential ones. |
| Baarsma & Groenewegen (2021) p.418 | This implies that for the COVID-19 period at least, a significant behavioral change has taken place. More generally, and in the longer run, a shift to online shopping generates significant additional consumer surplus. |
| Bezirgani & Lachapelle (2021) p.140 | Online Grocery Shopping can successfully replace grocery trips as mobility declines. The recent COVID-19 related surges in forced Online Grocery Shopping might trigger wider longer-term adoption in this population segment. Driving cessation programs should consider integrating Online Grocery Shopping training to replace grocery trips prior to mobility loss. |
| Chopdar, Paul & Prodanova (2022) p.9 | One more major finding of this research is the significant role of social influence as a moderator on m-shopping frequency. |
| Di Crosta et.al (2021) p.2 | The COVID-19 pandemic has had a huge impact on consumer behavior. There are several psychological factors that predict changes in consumer behavior, including fear, anxiety, stress, depression, self-justifications, personality traits, and perceived economic stability in influencing consumer behavior. |
| Fatema & Siddiqui(2021) p.67 | Concerning the influence of these factors on customers, the study finds that features and quality, performance and durability, trust and reliability, e-service quality, ease of use and time factors influence the customers' online buying behavior during the pandemic in Bangladesh. |
| Fernando (2021) p.3419 | Respondents try to cope with the pandemic situation and also avoid the negative consequences, which were created as a result of the COVID-19 pandemic situation by using their mobile phone apps to do online shopping transactions more often than before the COVID-19 pandemic. |
| Gu, et.al (2021) p.2267 | Psychological factors influence in their purchasing behavior is purchase motives, product perception, and attitude to the product. |
| Guthrie, Fosso-Wamba, & Arnaud (2021) p.1 | We found that online consumers react, cope with, and then adapt to such stressful life events, thus validating the usefulness of the react-cope-adapt framework of constrained consumer behaviour in an online environment. |
| Hartono, et.al (2021) p.4 | The first factor is price-sensitive. The second factor is e-shop shifting. The third factor is health and society consciousness. The fourth factor is termed reduce and consumption shifting. The last factor is labelled as panic buying; |

Table 1. Selected findings from literature (cont.)

| Authors (year) | Significant findings |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Klingbeil, Osalili, Al-Nabulsi, Jemni, & Todd (2021) p.8 | COVID-19 pandemic has resulted in significant changes in food shopping, food handling, and hygiene practices of the surveyed subjects in Lebanon, Jordan, and Tunisia. The study sample showed a significant rise in their adoption of precautions and hygiene measures for the coronavirus such as disposing of food packages as well as RTE food and grocery shopping bags and disinfecting food packages before storing at home |
| Mouratidis & Popagiannakis (2021) p.9 | This study has provided new evidence on changes in a range of online activities due to COVID-19 that replaced physical participation in activities and contributed to changes in mobility. The importance of online shopping increased but to a lesser degree. Telehealth and online shopping modestly increased during COVID-19 |
| Nguyen et.al(2022) p.442 | The COVID-19 pandemic situation has a positive and significant impact on consumer intention toward online book shopping. Furthermore, while utilitarian motivation exerts a strong effect on consumer intention to purchase books online, the relationship between hedonic motivation and online purchase intention is positive but insignificant. |
| Pham, Thi & Le (2020) p.6 | Online shopping is an optimal alternative during this epidemic crisis because it helps customers maintain product consumption while helping to prevent risks of spreading the virus. This called of Awareness of COVID-19 affects the switch of customer behaviour in online shopping, |
| Sumbaga (2021) p.218 | During the COVID-19 pandemic, the consumer community experienced changes in their behavior particularly in activities using the internet related to the purchase of goods or services. A very influential factor is in terms of time effectiveness. |
| Trejo (2021) p.21 | ECMAW-PIC is a reliable and solid empirical framework to support an update the useless and gratifications theory (UGT) |
| Wang (2022) p.5 | Fear appeals appear to weaken the relationship between Online Shopping Cart Abandonment (OSCA) and the decision to buy from a land-based retailer. Due to the COVID-19 pandemic, numerous negative consequences have impacted individuals' health and well-being, including fear, worry, and anxiety. |
| Youn (2021) p.1 | The results showed that consumer assessments of perceived severity and altruistic fear of COVID-19 and response efficacy and self-efficacy of channel switching increased their beliefs (i.e., attitude, perceived behavior control, subjective norm) and intentions to switch shopping channels to online. |
| Zamboni (2021) p.1 | However, the loss of control in online shopping and web navigation was significantly correlated to the unpleasant emotional states of nervousness, fear and restlessness, whereas those who reported feeling strong and able to handle the situation experienced a lower loss of control in their web navigation. These correlations may suggest that these online behaviors may act as modulators of unpleasant emotional states. |
| Zwanka & Buff (2020) p.1 | The potential impact of the COVID-19 pandemic of 2020 on global consumer traits, buying patterns, global interconnectedness and psychographic behavior, and other marketing activities. In this sense, it is conceivable the COVID-19 cohort will return to the practice of pantry loading and maintaining an inventory of medical supplies and shelf stable provisions. |

Based on the exposure to studies from various scientific papers, it was later discovered that several psychological factors encourage and influence online shopping behavior during the COVID-19 pandemic. There are psychological factors that researchers found can be related to internal locus of control theory. Internal locus of control refers to the perception that events, both positive and negative, occur as a consequence of one's own actions or actions and are under self-control, such as choices or behavior. In this case, the negative event that occurred was the COVID-19 pandemic which made people experience changes in behavior related to online shopping.

The first internal factor is positive perceptions of the use of web online shopping (positive attitudes, perceptions of the web being easy to use, and trust in the web). When shopping online, there are several things that everyone should pay attention to, including the importance of convenience and trust in the shopping site they choose. This certainly affects the perception of ease to use measuring the extent to which consumers feel it is easier and more comfortable to use a particular technology or system because the convenience of online shopping has a positive effect on customer intentions to choose this online shopping (Sumbaga, 2021). Ease of use and user friendliness can influence customer attitudes towards online purchases (Qiu & Li 2008). The perceived ease of use was described as comprehensive e-service capabilities will help increase the value of services and bring more benefits to consumers (Pham et.al, 2020). Therefore, companies that offer easy-to-use websites and relevant advertisements about the usefulness of their products will attract more consumers on the internet (Alhaimer, 2021).

Second, online shopping self-efficacy. Bandura (1997) states that self-efficacy is a person's belief in the ability to organize and perform a series of actions needed to complete a given task. In the context of online shopping, self-efficacy is a consumer's evaluation of the ability to shop effectively while traveling (Compeau, Higgins & Huff, 1995). Good or bad evaluation depends on consumer confidence in the seller. This is because it has a positive impact on subsequent online shopping intentions (Chong, 2012). When faced with the COVID-19 condition, a person when going to shop for a necessity tends to make online shopping through a trusted place because it can increase confidence (attitude, control behavior that perceived and subjective norms) when purchasing the item (Youn, 2021).

Third, negative emotion factors such as anxiety and fear of COVID-19 and all related matters. The pandemic has affected people's health and well-being, including fear, worry, and anxiety (Ahorsu et al., 2020) that will influence consumer behavior (Pakpour et al., 2020). Fear and anxiety itself originated from perceived feelings of insecurity and instability, which are the factors driving these behavioral changes (Di Crosta et al., 2021). Wang (2022), states fear factors such as COVID-19 and government penalties for rule violations play an important role in determining consumer attitudes towards the use of certain technical services (ie, online behavior). The result of Addo et al. (2020) suggests that fear is a prerequisite for e-commerce loyalty, which promotes desired purchase behavior in online shopping. Therefore, changes in the consumer behavior can be described as a remedy to alleviate the fear and anxiety associated with COVID-19 emergencies, present findings indicate that fear and anxiety play an important role in predicting changes in consumer behavior related to necessities. From this perspective, fear and anxiety associated with COVID-19 can lead individuals to feel the need to purchase daily necessities that are useful in their daily lives (Di Crosta et al., 2021).

Fourth, motivation to adapt to survive in the midst of a pandemic by changing the way of shopping and developing a healthy life by minimizing the risk of contracting COVID-19, several studies show that consumers change their shopping habits during difficult and stressful times due to the economic crisis (Ang, 2001) and virus outbreak

(Baker, Farrokhnia, Meyer, Pagel, & Yannelis, 2020) in long-term behavioral shifts and changes in consumption lifestyles to adapt to new life circumstances (Mathur, Moschis & Euehun, 2003). During this outbreak, consumers may face serious risks in visiting physical shopping outlets (Alhaimer, 2021). Xie, Huang & Zhu (2020) evaluate why consumers must adopt online shopping to ensure safety and security and suggest that any sort of physical gathering would be a threat to the community. These situational factors, including all factors unrelated to the decision-maker as an individual (e.g. personality and physical characteristics) or decision alternatives, play an important role in training and reinforcing online shopping motivation (Nguyen et al., 2022). It could be said that online shopping is an optimal alternative during this epidemic crisis because it helps customers maintain product consumption while helping to prevent the risks of spreading the virus (Forster & Tang, 2005).

Fifth, social influence can also affect online shopping behavior. Social influence, also known as a subjective norm and social norm, in the context of online shopping is the degree to which users perceive that others (e.g. family and friends) believe they should use mobile shopping apps (Venkatesh, Morris, Davis & Davis, 2003). While social distancing has put a limit to face-to-face interaction, it has been observed that consumers perceive online shopping not only as an individual activity but also to connect and interact with other people as a form of social shopping (Fuentes & Svingstedt, 2017). Individuals have reached for their families, friends, and colleagues, not just for information, but likewise for communication and companionship, all through new technologies, devices, and tools (Drouin, McDaniel, Pater & Toscos, 2020). People tend to interact with each other through social media and other means and such interaction is a significant motivator for online shopping (Rohm & Swaminathan, 2004).

CONCLUSION AND SUGGESTION

Based on the results of the study, it can be concluded that there are several psychological factors that can encourage and influence online shopping behavior during the COVID-19 pandemic. These psychological factors are internal locus of control including (1) positive perceptions of the use of web online shopping (positive attitudes, perceptions of the web being easy to use, and trust in the web), (2) self-efficacy shopping online, (3) negative emotion factors such as anxiety and fear of COVID-19 and all related matters, and (4) motivation to adapt to survive in the midst of a pandemic by changing the way of shopping and developing a healthy life by minimizing the risk of contracting COVID-19, and (5) social influence such as the influence of other people such as family and friends.

However, the combination of all these psychological factors may have created an aggregate bias that can obscure the specific role of each factor that influences consumer behavior. Therefore, future studies could adopt a more fine-grained approach to disentangle the role of each factor. Hence, future research is expected to be able to further examine each of the five psychological factors that can influence online shopping behavior and they should investigate other factors such as online shopping addiction caused by the COVID-19 pandemic and whether changes in public policy related to the development of the pandemic itself will affect online shopping behavior.

REFERENCES

- Abid, A. & Jie, S. (2021). Impact of COVID-19 on agricultural food: A strengths, weaknesses, opportunities, and threats (SWOT) analysis. *Food Frontiers*, 2(4), 396-406. doi:10.1002/fft2.93/

- Addo, P.C., Fang, J. Asare, A. O & Kulbo, N.B. (2021). Customer engagement and purchase intention in live-streaming digital marketing platforms. *The Service Industries Journal*, 41(2), 1-20. doi: 10.1080/02642069.2021.1905798
- Accenture. (2020). COVID-19: Fast-changing consumer behavior. *Accenture COVID-19 Consumer Research*, conducted March 19–25 and April 2–6. Retrieved from: https://www.accenture.com/_acnmedia/PDF-123/Accenture-COVID-19-Pulse-Survey-Research-PoV.pdf.
- 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 Mental Health and Addiction*, 1–9. doi.org/10.1007/s11469-020-00270-8.
- Aji, H. M., Berakon, I., & Husin, M. M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business & Management*, 7(1), 1 - 16. doi:10.1080/23311975.2020.1804181.
- Akar, E. (2021). Customers' online purchase intentions and customer segmentation during the period of COVID-19 pandemic. *Journal of Internet Commerce*, 20(3), 371-401. doi:10.1080/15332861.2021.1927435.
- Alessa, A.A., Alotaibie, T.M., Elmoez, Z., & Alhamad, H.E. (2021). Impact of COVID-19 on entrepreneurship and consumer behaviour: A case study in Saudi Arabia. *Journal of Asian Finance Economics and Business*, 8(5), 201–210. doi:10.13106/jafeb.2021.vol8.no5.0201 .
- Alhaimer, R. (2021). Fluctuating attitudes and behaviors of customers toward online shopping in times of emergency: The case of Kuwait during the COVID-19 pandemic. *Journal of Internet Commerce*, 1-26. doi:/10.1080/15332861.2021.1882758.
- Al-Hattami, H. M. (2021) Determinants of intention to continue usage of online shopping under a pandemic: COVID-19. *Cogent Business & Management*, 8(1), 1-16. doi:10.1080/23311975.2021.1936368.
- Andrieu, M. (2001). The future of e-money: An international review of policy and regulatory issues. *Foresight*, 3(6), 502–522. doi:10.1108/14636680110420459.
- Ang, S. H. (2001). Crisis marketing: A comparison across economic scenarios. *International Business Review*, 10(3), 263–284. doi:10.1016/S0969-5931(01)00016-6.
- Baarsma, B., & Groenewegen, J. (2021). COVID-19 and the demand for online grocery shopping: Empirical evidence from the Netherlands. *De Economist*, 169 (2021), 407–421. doi:10.1007/s10645-021-09389-y.
- Baker, S. R. Farrokhnia, R. A. Meyer, S. Pagel, & M. Yannelis, C. (2020). How does household spending respond to an epidemic? Consumption during the 2020 COVID-19 pandemic. *NBER Working Paper Series*, 26949, 1-36. Retrieved from: https://www.nber.org/system/files/working_papers/w26949/w26949.pdf. doi:10.2139/ssrn.3565521.
- Bandura, A. (1997). *Self efficacy – The exercise of control (fifth edition)*. New York: W.H. Freeman & Company.
- Beaunoyer, E., Dupéré, S., & Guitton, M. J. (2020). COVID-19 and digital inequalities: Reciprocal impacts and mitigation strategies. *Computers in Human Behavior*, 111(2020), 1-9. doi:10.1016/j.chb.2020.106424.
- Bezirgani, A., & Lachapelle, U. (2021). Online grocery shopping for the elderly in Quebec, Canada: The role of mobility impediments and past online shopping experience, *Travel Behaviour and Society*, 25 (2021), 133–143. doi:10.1016/j.tbs.2021.07.001.
- Brown, D. (2020, March 6). *Can cash carry coronavirus? World Health Organization says use digital payments when possible*. USA Today. Retrieved from:

- <https://www.usatoday.com/story/money/2020/03/06/coronavirus-COVID-19-concerns-over-using-cash/4973975002/>.
- Brownell, P. (1982). The effects of personality–situation congruence in a managerial context: Locus of control and budgetary participation. *Journal of Personality and Social Psychology*, 42(4), 753–763. doi:10.1037/0022-3514.42.4.753.
- Chong, A.Y.-L., Chan, F.T. & Ooi, K.-B. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems*, 53(1), 34-43. doi.org/10.1016/j.dss.2011.12.001.
- Chopdar, P. K., Paul, J., & Prodanova, J. (2022). Mobile shoppers’ response to COVID-19 phobia, pessimism and smartphone addiction: Does social influence matter? *Technological Forecasting & Social Change*, 174 (2022), 1-13. doi.org/10.1016/j.techfore.2021.121249.
- Compeau, D., Higgins, C.A. & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: a longitudinal study. *MIS Quarterly*, 23(2), 145-158. doi:10.2307/249749.
- Despin T. (2020, May 11). *Knock-on effects of COVID-19 on consumer behavior and how businesses can prepare for them*. Entrepreneur. Retrieved from <https://www.entrepreneur.com/article/350457>.
- Di Crosta, A., Ceccato, I., Marchetti, D., La Malva, P., Maiella, R., Cannito, L., ... Di Domenico (2021). Psychological factors and consumer behavior during the COVID-19 pandemic. *PLoS ONE*, 16(8), 1-23. doi.org/10.1371/journal.pone.0256095.
- Drouin, M., McDaniel, B.T., Pater, J., & Toscos, T. (2020). How parents and their children used social media and technology at the beginning of the COVID-19 pandemic and associations with anxiety. *Cyberpsychology, Behavior, and Social Networking*, 23(11), 727–736. doi:10.1089/cyber.2020.0284
- Esposti, P. D., Mortara A, & Roberti G. (2021). Sharing and sustainable consumption in the era of COVID-19. *Sustainability*, 13(4), 1-15. doi.org/10.3390/su13041903.
- Eurofound. (2020). *Living, working and COVID-19*. Luxembourg: Publications Office of the European Union.
- Fatema, F., & Siddiqui, M. A. (2021). Factors affecting customers’ online shopping behavior during COVID-19 pandemic in Bangladesh. *ABC Research Alert*, 9(2), 67-79. <https://abc.us.org/ojs/index.php/abcra>.
- Feist, J. & Feist, G. J. (2010). *Teori kepribadian* (Edisi ketujuh). Jakarta: Penerbit Salemba Humanika.
- Fernando, M. W. (2021). The use of mobile technologies in online shopping during the COVID-19 pandemic-an empirical study. *Proceeding of 25th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems*. Szczecin, Poland. <https://creativecommons.org/licenses/by-nc-nd/4.0>.
- Forster, P.W., & Tang, Y. (2005). The role of online shopping and fulfillment in the Hong Kong SARS crisis. *Proceedings of the 38th Annual Hawaii International Conference on System Sciences*.
- Fuentes, C., & Svingstedt, A. (2017). Mobile phones and the practice of shopping: a study of how young adults use smartphones to shop. *Journal of Retail and Consumer Services*, 38 (2017), 137–146.
- Geiger, S. (2007). Exploring night-time grocery shopping behaviour. *Journal of Retailing and Consumer Services*, 14(1), 24–34. doi:10.1016/j.jretconser.2006.03.001.
- Gu, S., 'Slusarczyk, B., Hajizada, S., Kovalyova, I. & Sakhbieva, A. (2021). Impact of the COVID-19 Pandemic on Online Consumer Purchasing Behavior. *Journal of*

- Theoretical and Applied Electronic Commerce Research*, 16(8), 2263–2281. <https://doi.org/10.3390/jtaer16060125>.
- Gul, M., & Guneri, A. F. (2015). A comprehensive review of emergency department simulation application for normal and disaster conditions. *Computers and Industrial Engineering*, 83(5), 327-344.
- Guthrie, C., Fosso-Wamba, S., & Arnaud, J. B. (2021). Online consumer resilience during a pandemic: An exploratory study of e-commerce behavior before, during and after a COVID-19 lockdown. *Journal of Retailing and Consumer Services*, 61(2021), 1-15. doi:10.1016/j.jretconser.2021.102570.
- Hartono, A., Ishak, A., Abdurrahman, A., Astuti, B., Marsasi, E. G., Ridanasti, E., Roostika, R., & Muhammad, S. (2021). COVID-19 pandemic and adaptive shopping patterns: An insight from Indonesian consumers. *Global Business Review*, 1-19. doi:10.1177/09721509211013512.
- Hoang, H. N. (2017). *Determinants of pro-environmental behaviour: Bioethanol fuel purchasing in Vietnam* (Doctoral dissertation). Lincoln University, Christchurch, New Zealand.
- Hohtoulas, P., Phan, A. T., Mheen, P. van de, & Kwan, E. (2020). *An Indonesian perspective: before and after the COVID-19 outbreak*. Consumer Insights Survey 2020.
- Itani, O.S. & Hollebeek, L.D. (2021). Consumers' health-locus-of-control and social distancing in pandemic-based e-tailing services. *Journal of Services Marketing*, 35(8), 1073-1091. doi:10.1108/JSM-10-2020-0410.
- Klingbeil, D. F., Osaili, T. M., Al-Nabulsi, A. A., Jemni, M., & Todd, E. C. D. (2021). An on-line survey of the behavioral changes in Lebanon, Jordan and Tunisia during the COVID-19 pandemic related to food shopping, food handling, and hygienic practices. *Food control*, 125(2021), 1-10. doi:10.1016/j.foodcont.2021.107934.
- Kreitner, R & Kinicki, A. (2001). *Organizational behavior* (Fifth Edition). New York: McGraw-Hill.
- Larson, L. R. L., & Shin H. (2018). Fear during natural disaster: Its impact on perceptions of shopping convenience and shopping behavior. *Services Marketing Quarterly*, 39(4), 293–309. doi:10.1080/15332969.2018.1514795.
- Lefcourt, H. M., Martin, R. A., Fick, C. M., & Saleh, W. E. (1985). Locus of control for affiliation and behavior in social interactions. *Journal of Personality and Social Psychology*, 48(3), 755–759. doi:10.1037/0022-3514.48.3.755.
- Mason, A.N., Brown, M., Mason, K., & Narcum, J. (2021). Pandemic effect on social media marketing behaviors in India. *Cogent Business & Management*, 8(1), 1-14. doi:10.1080/23311975.2021.1943243
- Mathur, A., Moschis, G.P., & Euehun, L. (2003). Life events and brand preference changes. *Journal of Consumer Behavior*, 3(2), 129–141. doi:10.1002/cb.128.
- Mouratidis, K. & Papagiannakis, A. (2021). COVID-19, internet, and mobility: The rise of telework, telehealth, e-learning, and e-shopping. *Sustainable Cities and Society*, 74 (2021), 1-11. doi:10.1016/j.scs.2021.103182.
- Nguyen, H. V., Tran, H. X., Huy, L. V., Nguyen, X. N., Do, M. T., & Nguyen, N. (2020). Online book shopping in Vietnam: The impact of the COVID-19 pandemic situation. *Publishing Research Quarterly*, 36 (3), 437–445. doi:10.1007/s12109-020-09732-2.
- Pakpour, A. H. Griffiths, M. D., & Lin, C. Y. (2020). Assessing psychological response to the COVID-19: The fear of COVID-19 scale and the COVID stress scales. *International Journal of Mental Health and Addiction*, 19(6), 2407-2410. doi:10.1007/s11469-020-00334-9.

- Pham, V. K., Thi, T. H. D., & Le, T. H. H. (2020). A study on the COVID-19 awareness affecting the consumer perceived benefits of online shopping in Vietnam. *Cogent Business & Management*, 7(1), 1-16. doi:10.1080/23311975.2020.1846882.
- Pierce, B. S., Perrin, P.B., Tyler, C. M., McKee, G. B., & Watson, J. D. (2021). The Covid-19 telepsychology revolution: A national study pandemic-based changes in U.S mental health care delivery. *American Psychologist*, 76(1), 14-25.
- Qiu, L., & Li. D. (2008). Applying TAM in B2C E-commerce research: An extended model. *Tsinghua Science and Technology*, 13(3), 265–72. doi:10.1016/S1007-0214(08)70043-9.
- Robbins, S. P., & Judge, T. A. (2008). *Organizational behaviour* (12th ed.). New Jersey, Upper Saddle River: Pearson Education.
- Rohm, A.J. & Swaminathan, V. (2004). A typology of online shoppers based on shopping motivations. *Journal of Business Research*, 57(7), 748-757.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(1), 1-28. doi:10.1037/h0092976.
- Rotter, J. B. (1990). Internal versus external control of reinforcement: a case history of a variable. *American Psychologist*, 45(4), 489-493. doi:10.1037/0003-066X.45.4.489.
- Sardogan E. M., Kaygusuz, C., & Karahan, T. F. (2006). A human relations skills praining program, university students internal locus of control levels. *Mersin University Journal of the Faculty of Education*, 2(2), 184-194. Retrieved from: <https://dergipark.org.tr/en/download/article-file/160992>.
- Shiwakoti, N., Sarvi, M., & Rose, G. (2008). Modelling pedestrian behaviour under emergency conditions – State-of-the-art and future directions. Research paper at *31st Australasian Transportation Forum*. Retrieved from: https://www.australasiantransportresearchforum.org.au/sites/default/files/2008_Shiwakoti_Sarvi_Rose.pdf
- Strauser, D. R., Ketz, K., & Keim, J. (2002). The relationship between self-efficacy, locus of control and work personality, *Journal of Rehabilitation*, 68(1), 20-26. <https://www.proquest.com/docview/236323737>.
- Sumbaga, M. F., & Ilena, S. (2021). The impact of the COVID-19 crisis on consumer behavior online shopping in Wisma Atlet 2 quarantine area, Jakarta. *Psycho Idea*, 19(2), 212-220. doi:10.30595/psychoidea.v19i2.10776
- Tran, L.T.T. (2021). Managing the effectiveness of e-commerce platforms in a pandemic. *Journal of Retailing Consumer Services*, 58(2021), 1-9. doi:10.1016/j.jretconser.2020.102287
- Trejo, J. M. (2021). COVID-19 ads on purchase intention of online consumer behavior as business innovation activity: A contribution to the uses and gratification theory. *Electronic Commerce Research and Applications*, 49(2021), 1-23. doi:10.1016/j.elerap.2021.101086.
- Venkatesh, V., Morris, M.G., Davis, G.B., & Davis, F.D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quaterly*, 27(3), 425–478.
- Wang, S., Cheah, J. H., Lim, X. J., Leong, Y. C., & Choo, W. C. (2022). Thanks COVID-19, I'll reconsider my purchase: Can fear appeal reduce online shopping cart abandonment?. *Journal of Retailing and Consumer Services*, 64 (2022), 1-12. doi:10.1016/j.jretconser.2021.102843.
- Wijesooriya, N. R., Mishra, V., Brand, P. L. P & Rubin, B. K. (2020). COVID-19 and telehealth, education and research adaptations. *Paediatric Respiratory Reviews*, 35(2020), 38-42. doi: 10.1016/j.prrv.2020.06.009.

- Xie, X., L. Huang, J. J. Li, & Zhu, H. (2020). Generational differences in perceptions of food health/risk and attitudes toward organic food and game meat: The case of the COVID-19 crisis in China. *International Journal of Environmental Research and Public Health*, 17(9), 1-17. doi:10.3390/ijerph17093148.
- Youn, S. Y., Lee, J. Y., & Brookshire, J. H. (2021). Fashion consumers' channel switching behavior during the COVID-19: Protection motivation theory in the extended planned behavior framework. *Clothing and Textiles Research Journal*, 39(2), 139-156. doi:0.1177/0887302X20986521.
- Zamboni, L., Carli, S., Belleri, M., Giordano, R., Saretta, G., & Lugoboni, F. (2021). COVID-19 lockdown: Impact on online gambling, online shopping, web navigation and online pornography. *Journal of Public Health Research*, 10(1), 1-7. doi.org/10.4081/jphr.2021.1759.
- Zhao, Y. & Bacao, F. (2020). What factors determining customer continuingly using food delivery apps during 2019 novel coronavirus pandemic period?. *International Journal of Hospitality Management*, 91(2020), 1-13. doi: 10.1016/j.ijhm.2020.102683
- Zwanka, R. J., & Buff, C. (2020): 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. doi:10.1080/08961530.2020.1771646.