



Panic Buying Situation during COVID-19 Global Pandemic

Sukanya Roy

Academic Associate, Indian School of Business, Mohali. E-mail: sukanyaroy.iimu@gmail.com

Chinmay Chakraborty 

*Corresponding Author, Assistant Prof., Birla Institute of Technology, Mesra, Jharkhand. E-mail: cchakraborty@bitmesra.ac.in

Abstract

After the Coronavirus diseases (COVID-19) outbreak, the Whole world witnessed the strangest buying behavior within the customers. Suddenly masks, hand sanitizers, and toilet papers became the priority list of the customers. High demand and lesser availability of essentials products like masks, toilet papers, and hand sanitizers create a chaotic situation inside the retail outlet's stores. The buyer's behavior and the chaotic scenario inside a retail outlet drew the attention of several consumer psychologists, academicians, and researchers. A panic buying situation is the most common behavior that exists in a time of crisis. This paper discusses the panic buying situation briefly during COVID-19. However, a few types of research and studies were captured in the panic buying behavior. The current study examined the factors that influenced the customers buying decisions during the COVID-19 outbreak and secondly, it examined to what extent the buying decision of a customer creates a panic situation. Furthermore, the study looked at the emotional and cognitive responses of the individuals which play a pivotal role in influencing customer decision making the journey. Qualitative content analysis and thematic methodology were considered for data analysis. The results indicated that fear and uncertainties were the key emotional responses; whereas rumors, fallacious thinking, and survivalist psychological were the key cognitive responses that influenced the customer decision journey.

Keywords: Panic buying, COVID-19, Emotional responses, Cognitive responses, Masks, Hand sanitizers, Toilet papers.

Introduction

In a broad aspect, consumer behavior is an interdisciplinary social science that comprises many subjects like behavioral economics, ethnography, human psychology, marketing, and sociology. Consumer behavior is the study of the process where individuals or group make their decision about what they need and how they satisfy their needs (D. L., & Della Bitta, A. J. 1984). Usually, consumer buying is a subset of human behavior that includes a mental decision process as well as physical activity that occurs during the buying period (D. L., & Della Bitta, A. J. (1984). Buying behavior largely depends on consumer choices that too depend on many attributes such as: demographic, social, cultural, and geographic. A plethora of studies found that internal and external factors impact the customer decision-making process. The internal influences are also known as personal influence and comprise of motivation, lifestyle, perceptions, attitude, learning, and roles (Dawson & Kim, 2009). These internal influences impact customer purchase decisions. Similarly, External influences (Bennet, 2009) which is known as social influences and that comprise social norms, family roles, cultures, Government, and regulations that affect the consumer purchase decision process. The study has been showing that the purchase decision of customers largely depends on two attributes a) individuals' awareness and b) external motivators. Several global economists found that external influence plays a pivotal role that influences the internal aspects of the customers. Consumer behavior is an interesting research domain that drew the attention of several researchers, practitioners, and scholars and it is an important pillar of every business organization, by predicting consumer's behavior a business can understand needs and fulfill their needs and expectations. In the present research paper, researchers mainly talk about the factors which influence the buying decision of customers and create a panic buying situation during the COVID-19 outbreak.

Literature Review

In the present era, the whole world is suffering from the havoc of the coronavirus. It is an infectious disease which is caused by the coronavirus. On 11th March the World Health Organization declared coronavirus as a pandemic. The study found that the coronavirus disease was originated from Wuhan city. Coronavirus traveled and infected from the port city of Wuhan across the globe. According to the data of Worldmeters.com reported that more than eight lacks individuals across the globe were diagnosed with coronavirus infections (Srvanth, K. R et.al (2018, November, Garg, L et. al (2020).

Impact of COVID-19: Economic Slowdown:

The journey of coronavirus across the globe leads to the global economic slowdown. According to the Worldometer report, 2020 The coronavirus epidemic, which was originated and evolved in China, has infected more than 871,035 people across the world. Its spread has

hugely impacted the business around the world. Purchasing Manager's Index (PMI) surveys from Japan studied that the services sector declining at its rapid pace (24th, March) especially in the tourism hospitality, and airline sectors. According to the analyst at Blackrock Investment institute quoted that "The coronavirus outbreak represents a major external shock to the macro outlook, akin to a large-scale". To stop the corona pandemic government of every nation comes with a "locked-down" solution and this impacts the discretionary spending in a bad shape (Axis Capital Report, 2020). Discretionary spending includes footwear, household equipment, clothing, and recreation. Laura Jones and David brown stated that after the corona epidemic has a direct impact on the stock market Nikkei, FTSE, Dow Jones Industrial Average stock index have shown a huge decline corona epidemic, large numbers of shares in companies were purchased, and sold and this directly impacts on individua's saving accounts. Fig. 1 presented the stock market graph since the beginning of the COVID-19 (Laura Jones and David Brown 2020)

Figure 1. Coronavirus impact on the stock market (Source – Bloomberg, April 1st., 2020)

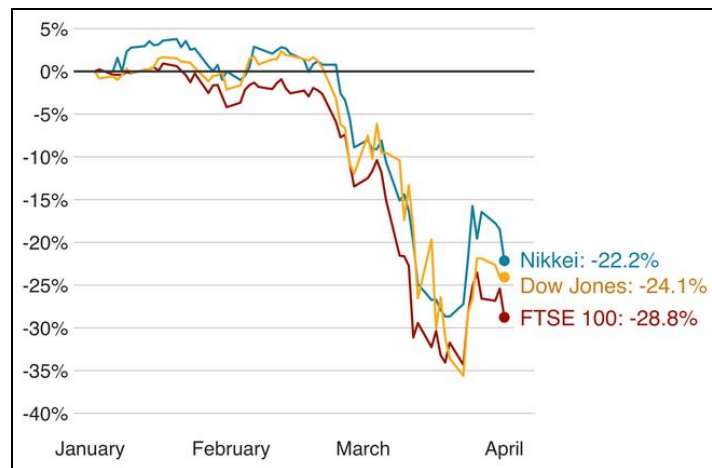
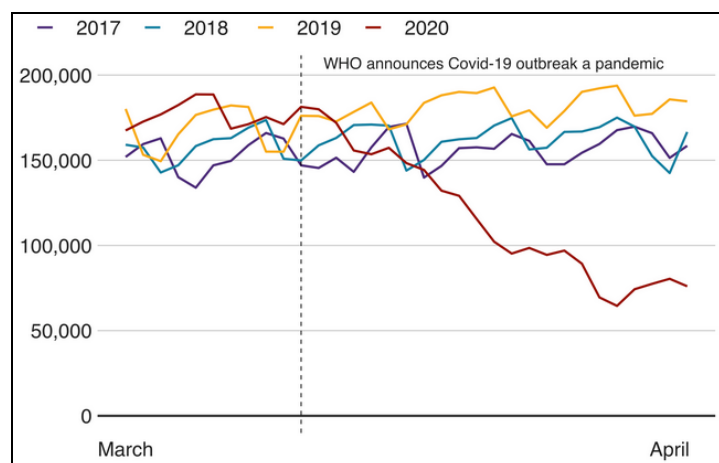


Figure 2 implied that fear of COVID-19 and Government locked-down policy leads the customers to travel less which largely impacts the hotel and restaurant business.

Figure 2. Coronavirus impact on the hospitality after breakdown (Source – Bloomberg, April 3rd., 2020)



Airline Industry has severely damaged after the corona breakdown. EU and many other nations banned travelers from outside this majorly impact the airlines' industry. After the government introduced the travel restrictions large numbers of tourist cancels both business and holiday trips. According to the Forwardkeys, the analytical firm study estimated that around 48,200 flights with 10.2 million seats badly impact by the tourist restrictions, which severely crash Air France. Fig. 3 provides a detailed graph of the risk of airlines travel between EU and non-EU countries in the period of 30 days.

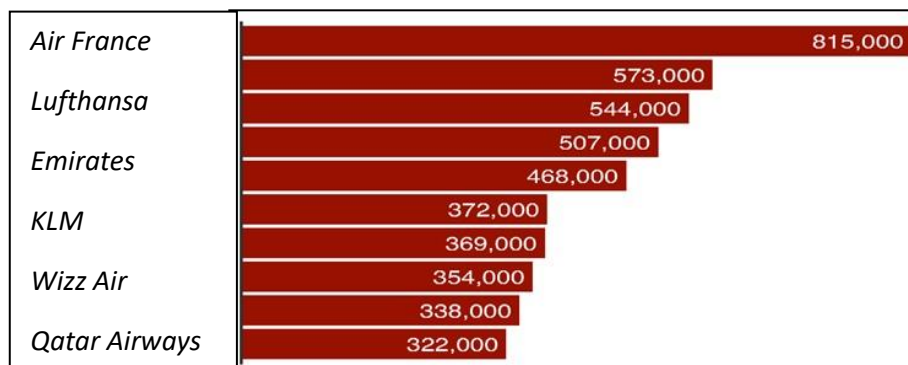


Figure 3. Risk of airlines travel in EU and non-EU countries
(Source – BBC, Forwardkeys, April 3rd., 2020)

Similarly, India faced an economic slowdown after the COVID-19 outbreak. According to a study by Axis Capital, 2020 reported the COVID-19 outbreak declines the discretionary spending of up to \$45 billion per month which is equivalent to 1.4% of the country's GDP. Discretionary spending includes expenditure on clothing, footwear, household equipment, and shopping (Ashutosh Shyam, 2020). Apart from the economic slowdown, COVID-19 majorly affects the daily wage and migrant workers. According to the CRISIL report stated prolonged lockdowns heavily affect the revenue streams of firms which has a direct impact on employment, especially of daily wagers and temporary workers.

COVID-19: Impact Buying Behaviour of Customers:

COVID-19 outbreak shakes the global economies, from the above explanation it found that coronavirus impacts the global and national economies badly. All the sectors whether textile, aviation, manufacturing, tourism growth has declined due to the COVID-19 outbreak. In other words, there aren't any businesses, government, or individuals that haven't felt the effect of coronavirus.

In the current situation more than one-third of the world's population (Juliana, Lauren, and Morgan 2020) is under lockdown or quarantine which impacts individual's lives drastically. Lockdown situations influence the buyer's behavior like what and how individuals

purchase during lockdown (D. L., & Della Bitta, A. J.1984). Richard Carufal, 2020 COVID-19 research, examined that consumer behavior change during the crisis, research showed that more than fifty-one percentage not considered purchasing the big-ticket items like luxury products, cars, home, and trips whereas customers are more focusing to purchase the essential products like masks, household items and medicine are high on demand (Richard Careful, 2020)

COVID-19 impact the buying habits of consumers:

Buying habits are broadly defined as the products or services that consumers preferably buy and places where they buy them. Sarah Whitten, articles reported that after the COVID-19 outbreak consumers' buying habits have been shifting. Masks, sanitizers, toilet papers became the first choice for the customers (Sarah Whitten, 2020). Kit Yarrow, a renowned consumer psychologist stated that individuals purchase goods based on three basic requirements/need a) To protect b) To entertain, and c) to connect. Protect from coronavirus leads the customers to grab the product like masks, sanitizers, and toilet (Sarah Whitten, 2020). A recent report by Deborah Weinswig,2020 (Coresight Research report) stated that the impact of the coronavirus generates a high demand for essential categories like personal care and health care products, foods, and household products. In India Axis, the capital research report stated that COVID-19 outbreaks impact the discretionary spending of \$45 million (Ashutosh Shyam,2020)

The COVID-19 pandemic drives the attention of cleanliness and social distance aspects in the Indian context. Besides all images, videos in news and caller tune of the mobile network create the awareness of hygiene and social distance aspect among the common people. But the unexpected things that grab attention is the scarcity of mask and hand sanitizers in the market “ The people enthusiasm of purchasing masks and hand sanitizers which is not common in India whether it is rural or urban context” The panic of buying hand sanitizers and masks across the nation increased the price ten times. According to the report by the Times of India, hand sanitizers, and other disinfectants have gone out of stock. The study aims to identify the factors that have a significant impact on the buying decision of customers. Also, researchers trying to recognize the factors into two different categories a) emotional (Sravanth K.R et.al 2018)and b) cognitive, and to understand how emotional and cognitive factors impact the panic buying situation.

Panic buying during COVID-19 Locked down

Whole nation witnesses the panic buying situation, lockdowns during the COVID -19 pandemic. Panic buying generally occurs when people predict any pandemic situation or anticipated large price increase or shortage of product which influence many consumers to purchase large quantities of products. The panic buying area comes under the study of consumer behavior theory, further, some panic buying situation is a broad field of economic

study which explained about the collective actions of acquiring products (William & Bonefield, 1989). Bengal famine (1943), SARS Outbreak (2003), Coronavirus Pandemic (2020) some examples of panic buying incidents. COVID-19 outbreak has impacted a huge gain in the demand for the hand sanitizers and mask market globally. Raunak Jain, 2020 report showed that people are stocking up on hand sanitizers, masks, and cleaning products to prevent themselves from the spread of coronavirus (Raunak Jain, 2020)

Theoretical Development

Several methods were followed to ensure a high-quality review of literature on the topic of panic buying in the emergency context.

Panic buying Situation

Panic buying generally exists during the crisis when consumers are fuelled with anxiety and fear and purchase an unusually large number of items to suppress fear and anxiety (Taylor, 2020). According to Oppenheim's study, Panic is defined as subjective, emotional and what we can observe is behavior (Bryan Luftkin, 2020). Panic buying area comes under the study of consumer behavior theory, further; some panic buying situation is a broad field of economic study which explained about the collective actions of acquiring products (William & Bonefield, 1989). According to Yoon et al. (2017) and Yuen et al. (2020) stated that panic buying is a behavior that is revealed by consumers where they purchase large amounts of products in anticipation of during crisis. The study conducted by Yuen et al. (2020) recognized that four factors cause panic buying during the coronavirus outbreak a) Perception, b) Fear of the unknown, c) coping behavior and d) social psychology. In the study, researchers concluded that when consumers perceive the fear of covid-19 outbreak, to suppress the fear of COVID-19, they start accumulating goods and which leads to chaos in the supermarket and other departmental stores this phenomenon is known as panic buying. According to the study of Elmore (2017) fear of the unknown and lack of knowledge about the pandemic crisis is the prime factors causing stress and panic. In times of uncertainty, consumer behavior theories explained how individuals behave in a crisis, to suppress the fear and anxiety consumers try to acquire lots of products and this creates a panic buying situation (Yuen et al., 2020; Ballantine 2013. From the above papers, it is found that fear, uncertainty, and lack of knowledge about the crisis are the prime factors that cause panic buying in the crisis.

Psychology of Panic buying situation

Panic buying is the strangest behavior that has been witnessed across the globe after the COVID-19 outbreak. According to Paul Marsden, a renowned consumer psychologist from the University of the Arts London stated that purchasing large amounts of items during the crisis is a form of "retail therapy" where individuals buy to manage and control his/her

emotional state (John M. Gruhal, 2020). According to Noel Murray, a renowned Consumer psychologist and a New York-based member of the “American Psychological Association and the Society for Consumer Psychology” stated that “cognitive and emotional responses” were the two key significant factors that involved and influenced the buying decisions of an individual during a situation like COVID-19 outbreak.

Panicked Buyers

According to Amalic and Ionut(2009) found that in an economic crisis all people not behave similarly neither they a similar perception of the emergency, besides, the paper mainly discussed the two factors about consumer behavior in a crisis - risk attitude and risk perception. Panicked customers (Amalic&Ionut, 2009; Masoor and Jalal, 2011) described the traits of panicked consumers who have both high-risk attitudes and perceptions. They are high risk-averse and tend to overreact in crisis

Fear of The Crisis

Fear is an unpleasant emotion that is mainly caused by the danger and threat in the pandemic situation. In a crisis, situation individuals feel fear, anxiety, and confusion and fear is a vital psychological consideration in the response to a threat.

Fear is broad features in three points a) In some cases, a perceived threat can motivate and helped to individuals to take desired actions b) Fear of the unknown and uncertainties prevent people to take action c) When people are scared and they don't have enough information, so they respond or react in a weird way to avoid the threat, panic buying is one of the situations where individuals respond in a unique way to avoid threat(CERC Report,2019)

Uncertainty

Julianna Photopoulos, 2020) article stated that the increasing number of active corona cases has led to an increase in uncertainty and anxiety among individuals which changes people buying behaviors. In a crisis, people think irrational and herd mentality is one of the prime causes that influence panic buying.

Emergency leads to the panic buying situation:

According to the Emergency Response Law of the People's Republic of China defines “emergency” as “something suddenly occurs which cause or may cause serious harm to *society, need to take emergency measures to cope with, such as natural disasters and accidents, disasters, public health incidents, and social security incidents*” Emergency directly influenced human psychology and behaviors (Ress andBarkhi, 2001) Fear of COVID-

19 burst in the demand for hand-sanitizers and masks, which cause many retail outlets including mom-pop stores run out of stocks (Puja Mehra, 2020) study concluded that fear of emergency encourages the buying motives of individuals (Puja Mehra,2020). During the crisis, the buying pattern of an individual's change due to stressful and hard times (Nistorescu and Puju, 2000; Mansor& Jalal, 2011) Persons react to the crisis and change their consumption due to the perception of risk (Lejoyeux,M et.al, 1997). According to the renowned consumer psychologist, Stephanie Peterson stated thatstockpiling or hoarding is a natural human response in a time of crisis, sometimes emotional and sometimes rational As stated by Sheu and Kuo, 2020, hoarding is the combination of rational and emotional response (fear, anxiety) (John M Gruhal,2020)

Emotional and Cognitive factors impact the consumers buying decisions

According to Lowenstein, 2000 research paper titled "Emotions in economic theory and Economic behavior" discussed the visceral factors (Loewenstein, G 2020). Visceral factors mainly include negative emotions like (Anger and fear) that drive people to engage in specific behaviors, for example, fear of the coronavirus tends to purchase more hand sanitizers and masks. Fear is the stimulus and panic buying is the response to the situation. Individuals suffering from depression or stress tend to compulsive buying (Lejoyeux, M., Tassain, V., Solomon, J., & Ades, J. (1997). According to Sheu and Kuo, 2020 stated that fear and anxiety are the key factors that encourage individuals to purchase more products (John MGruhal, 2020) In an emergency, individuals perceive reality in two ways: rational and emotional and these two have a major impact on decision-making when it comes to disaster planning. In the cognitive factors, rumors on social media play a pivotal role. According to the study by Depoux, A., Martin, S., Karafillakis, E., Preet, R., Wilder-Smith, A., & Larson, H, 2020 stated that rumors on social media have a communicate faster and which create an impact on the panic situation (Depoux, A et. al 2020) (Chakraborty et al., 2015).

Customer Buying Decision process

The customer buying process defines as an elaborate journey of a customer's regarding the acquiring and post-purchase of a product. John Dewey, 1910 introduced the five stages of the buying decision process. a) Recognition of needs and wants b) Information search, c) Evaluation of choices d) Purchase and e) Post-Purchase.

Model Development

From the above discussion, researchers developed a conceptual/ theoretical model

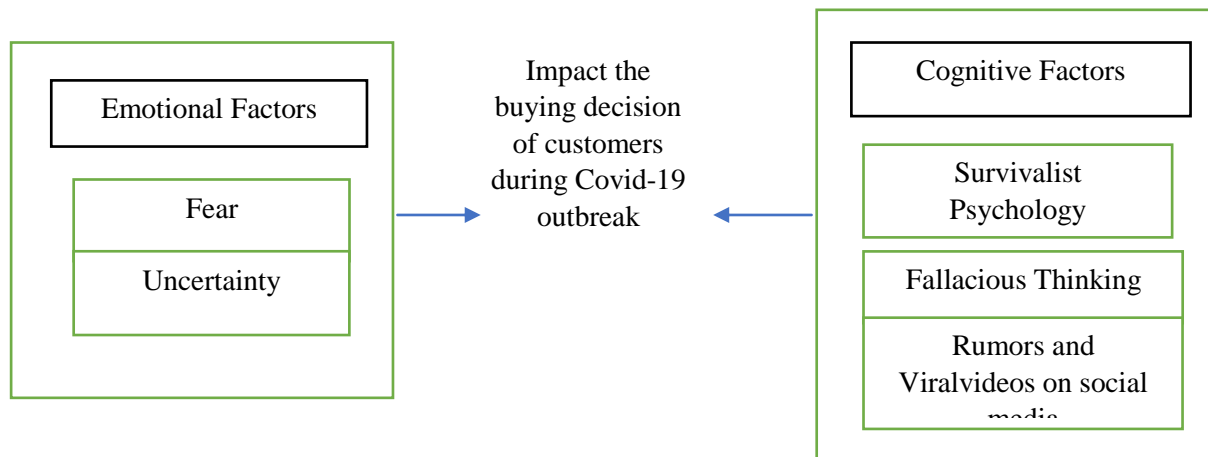


Figure 4. Conceptual framework

Hypothesis

Hypothesis 1: Fear has a significant impact on the panic buying decision of the customers

Hypothesis 2: Uncertainty has a significant impact on the panic buying decisions of the customers.

Hypothesis 3: Fallacious thinking has a positive impact on the panic buying decision of the customers.

Hypothesis 4: Rumours and Fake news on social media have a significant impact on the panic buying decision of the customers.

Hypothesis 5: Survivalist psychology has a significant impact on the panic buying decision of the customers.

Materials and Methods

For research question 1, the researcher used content analysis- According to Michael W. Marek, Content analysis is a systematic research methodology, where compressing many words of text into fewer content categories which are based on the rules. of coding. The 1st research question used the qualitative content analysis of online newspaper articles (Sjøvaag, H., & Stavelin, E. (2012) related to the COVID-19 outbreak, where more than forty-three articles were selected from the sample of 12 international and national newspapers articles that published after WHO declared COVID-19 as Pandemic on 11th Jan to 25th march in 2020. Once data collection excels files were completed for all the forty-three articles then the data were analyzed manually.

Analysis and Findings for Research Question 1 (To identify the emotional and cognitive factors that have a significant impact on the buying decision of customers)

The present paper is based on the analysis of online newspapers and articles which is related to the panic situation after the COVID-19 outbreak, where researchers examined the online news articles using descriptive and qualitative techniques. Forty- three qualified news articles were submitted for analysis.

Article profile

Forty-three news articles were used for analysis, out of 21 news articles is related to national news whereas 22 news articles related to global news. Forty-three news articles were analyzed were, 22 news articles from the global newspapers and 21 news articles were the national newspapers. The length of the articles ranged from 40 words to 1500 words, with a mean of 267.975 and media 200 words.

Description of News articles

- a) All the newspapers whether global, national, and regional were discussed the panic buying situation after the COVID-19 outbreak.
- b) In regular new stories, 35 of the forty-three articles, 81.39% discussed the fear and uncertainty concept. Content analysis of the online newspaper analyzed that “Fear and Uncertainty” were the key factors that impact the buying decision of an individual.
- c) In regular news stories, 10 of the forty -articles i.e. 23.33% discussed survivalist psychology. Several news articles raise awareness programs about the vulnerable population such as senior citizens and sick people about the COVID-19 outbreak. These awareness programs stimulate the thought process of the senior citizens and prepared them to stock the essential items during a crisis. Content analysis of the newspaper articles discussed the “Survivalist psychology” creates an impact on buying decisions.
- d) 23-Global newspapers were analyzed, 17 out of twenty-three articles, i.e 73.33% of articles discussed the viral videos on Twitter like “Mom of four cries in a viral video after being unable to find diapers in stores, 92yrs old women vents her anger over coronavirus panic buying” and rumors on social media regarding the shortage of toilet papers and essential products create the panic situation, similarly 20-national newspaper was analyzed, 15 out of twenty, 75% discussed the news on hoarding of mask and sanitizers create a panic situation.
- e) In regular newspapers, 43 of the forty-three news articles discussed the COVID-19 and its impact on health and economic slowdown. This leads the “fallacious thinking” and

increases the people's anxiety level which creates a panic situation among the entire nation.

Overall descriptions of the news articles:

The above analysis of the articles explained answers the research question. The findings are that:

- a) Most of the newspaper articles discussed the “Emotional and Cognitive: factors, which largely impact the buying decision of the individuals during the COVID-19 outbreak.
- b) Emotional factors were further classified: Fear, Uncertainty, and stress were the most frequent words which were repetitively used in every newspaper article whether it is global or national newspapers.
- c) Cognitive Factors were further classified into Rumours, Fallacious Thinking, and Survivalist Psychology/ Thinking. These were the most repetitive words which were frequently used in every newspaper. Especially Survivalist Psychology/ thinking was maximum found in the global newspapers. Whereas Rumours on Social media like fake news were found in South-Asian countries like India.

Conclusion

The present study concluded that emotional and cognitive responses influenced the buying decision of customers during COVID-19. From the content analysis of online newspapers, researchers concluded that fear and uncertainty were the key emotional factors that impact the buying decision of an individual, similarly fallacious thinking, rumors / fake news as well as the viral videos on social media and survivalist psychology were the key cognitive factors which influence the buying decisions of customers. According to Taylor, 2020 cognitive and emotional responses were the key determinants that influence the buying decision of the customers in the crisis periods. From the above content, analysis researchers discussed the factors that influenced the consumer buying decision in the second section researchers discussed the panic buying situation which was caused due to emotional and cognitive responses of the individuals during the COVID-19 outbreak.

The future scope should focus on building a customer buying process framework in the context of the emergency crisis. Further research should explore the study empirical because the limitation of the study was the qualitative approach with less sample.

Conflict of Interest

The authors declare that they have no conflict of interest.

References

- Amalia, P., & Ionut, P. (2009). Consumers' reaction and organizational response in crisis context. *The Journal of the faculty of Economics*, 1(5), 779-782. (<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.890.252&rep=rep1&type=pdf>)
- Ashutosh Shyam (2020). Coronavirus impact:45\$ million discretionary spending may belockeddownEconomictimes<https://economictimes.indiatimes.com/news/economy/indicators/45-billion-of-discretionary-spending-may-be-locked-down/articleshow/74800637.cms?from=mdr> Accessed 25th March 2020
- Ballantine, P. W., Zafar, S., & Parsons, A. G. (2014). Changes in retail shopping behaviour in the aftermath of an earthquake. *The International Review of Retail, Distribution and Consumer Research*, 24(1), 1-13.(<https://www.tandfonline.com/doi/abs/10.1080/09593969.2013.>)
- Bryan Luftkin (2020) amid the coronavirus outbreak people are flocking to supermarket -but they simply preparing or irrationally panicking BB NEWS (<https://www.bbc.com/worklife/article/20200304-coronavirus-covid-19-update-why-people-are-stockpiling> Accessed 5th March 2020)
- Chakraborty. C., Gupta, B., & Ghosh S. K. (2015). Identification of Chronic Wound Status under Tele-Wound Network through Smartphone, *Int. Journal of Rough Sets and Data Analysis*, Special issue on: Medical Image Mining for Computer-Aided Diagnosis, 2(2), 56-75, 2015. 10.4018/IJRSDA.2015070104
- D. L., & Della Bitta, A. J. (1984). *Consumer behavior: Concepts and applications*. McGraw-Hill Companies.
- Dawson, S., & Kim, M. (2009). External and internal trigger cues of impulse buying online. *Direct Marketing: An International Journal*.(<https://www.emerald.com/insight/content/doi/10.1108/17505930910945714/full/pdf>)
- Depoux, A., Martin, S., Karafillakis, E., Preet, R., Wilder-Smith, A., & Larson, H. (2020). The pandemic of social media panic travels faster than the COVID-19 outbreak.(europepmc.org/article/med/339669984-Larson/publication/339669984_The_pandemic_of_social_media_panic_travels_faster_than_the_COVID-19)
- Elmore, C. (2017). Irma: Frenzied Buying in Palm Beach, St. *Lucie Regions Led State*.(https://www.sciencedirect.com/science/article/abs/pii/S0377221700003234?casa_token)
- Garg, L., Chukwu, E., Nasser, N., Chakraborty, C., & Garg, G. (2020). Anonymity preserving IoT-based COVID-19 and other infectious disease contact tracing model. *IEEE Access*, 8, 159402-159414.(<https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9181512>)
- John M gruhel (2020) Psychology of Hoarding toilet paper, beans and soups Psycentral.com<https://psychcentral.com/blog/panic-buying-the-psychology-of-hoarding-toilet-paper-beans-soup/> Accessed on 19th March
- Julianna Photopolas, 2020 "How Uncertainty effects our consumer behavior"<https://www.euroscientist.com/covid-19-how-uncertainty-affects-our-consumer-behaviour/>

- Laura Jones & David Brown (2020), A visual guide to corona impact <https://www.bbc.com/news/business-51706225>, Accessed 3RD April 2020.
- Lejoyeux, M., Tassain, V., Solomon, J., & Ades, J. (1997). Study of compulsive buying in depressed patients. *The Journal of clinical psychiatry*. (<https://psycnet.apa.org/record/1997-04472-006>)
- Loewenstein, G. (2000). Emotions in economic theory and economic behavior. *American economic review*, 90(2), 426-432. (<https://www.jstor.org/stable/pdf/117263.pdf>)
- Mansoor, D., & Jalal, A. (2011). The global business crisis and consumer behavior: Kingdom of Bahrain as a case study. *International Journal of Business and Management*, 6(1), 104. (<https://pdfs.semanticscholar.org/55f8/5c69644c6b13ad414588672138ffdb45c3bf.pdf>)
- Muhammad L. J., Ebrahim A. A., Sani S.U., Abdulkadir A., Chinmay C., Mohammed I.A. (2020), Supervised Machine Learning Models for Prediction of COVID-19 Infection using Epidemiology Dataset, *SN Computer Science*, 2(11), 1-13, <https://doi.org/10.1007/s42979-020-00394-7> . (<https://link.springer.com/article/10.1007/s42979-020-0075-z>)
- Puja Mehra, (2020). Fear is the key and panic buying is the therapy <https://www.livemint.com/news/india/fear-is-the-key-and-panic-buying-is-the-therapy-11583946988380.html> Accessed on 15th MARCH, 2020
- Raunak Jain (2020) Corona virus panic grips India, face masks price surge by twenty times hand sanitizer go out of stock on Amazon <https://www.businessinsider.in/science/health/news/coronavirus-panic-grips-india-face-mask-prices-surge-by-twenty-times-hand-sanitizers-go-out-of-stock-on-amazon/articleshow/74489614.cms> Accessed 5th March 2020
- Rees, J., & Barkhi, R. (2001). The problem of highly constrained tasks in group decision support systems. *European Journal of Operational Research*, 135(1), 220-229. (<https://www.sciencedirect.com/science/article/abs/pii/S0377221700003234?>)
- Richard Carefuel (2020) Customer behaviour in the time of corona virus crisis <https://www.agilitypr.com/pr-news/public-relations/consumer-behavior-in-the-coronavirus-crisis-new-insights-on-the-impact-of-covid-19/> Accessed on 26th March, 2020
- Sarah Whitten (2020) what people are buying CNBC news (<https://www.cnbc.com/2020/03/23/what-people-are-buying-during-the-coronavirus-outbreak-and-why.html>) Accessed 23rd March, 2020
- Sjøvaag, H., & Stavelin, E. (2012). The Methodology of Online News Analysis: A Quantitative Approach to Ephemeral Media. *The International Encyclopedia of Media Studies*, 473-497. (<https://onlinelibrary.wiley.com/doi/abs/10.1002/9781444361506.wbiems192>)
- Pravanth, K. R., Peddi, A., Sagar, G. S., Gupta, B., & Chakraborty, C. (2018, November). Comparison of Attention and Meditation Based Mobile Applications by Using EEG Signals. In *2018 Global Wireless Summit (GWS)* (pp. 260-265). IEEE. (<https://ieeexplore.ieee.org/abstract/document/8686634/>)
- Strahle, W. M., & Bonfield, E. H. (1989). Understanding consumer panic: a sociological perspective. *ACR North American Advances*. (<https://www.acrwebsite.org/volumes/6964/volumes/v16/NA%20-%202016>)

Yoon, J., Narasimhan, R., & Kim, M. K. (2018). Retailer's sourcing strategy under consumer stockpiling in anticipation of supply disruptions. *International Journal of Production Research*, 56(10), 3615-3635.(<https://www.tandfonline.com/doi/full/10.1080/00207543.2017.1401748?>)

Bibliographic information of this paper for citing:

Roy, Sukanya & Chakraborty, Chinmay (2021). Panic Buying Situation during COVID-19 Global Pandemic. *Journal of Information Technology Management*, 13(2),231-244.

Copyright © 2021, Sukanya Roy and Chinmay Chakraborty.