

The Effect of Social Influence on Consumer Behavior during the COVID-19 Epidemic: A Social Psychology Perspective

Priya Todwal¹, Govindaraj M², Mohit Rastogi³

¹Assistant Professor, Department of Management Studies, Vivekananda Global University, Jaipur, India.

²Associate Professor, Department of Marketing, CMS Business School, JAIN (Deemed to-be University), Bangalore, India.

³Associate Professor, Department of TMIMT, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, India.

Received: 11-May-2023

Revised: 15-June-2023

Accepted: 01-July-2023

Abstract

Introduction The COVID-19 epidemic has triggered radical shifts in consumer habits. To make sense of these transformations, it is essential to appreciate the significance of social impact.

Objectives This research uses social psychology to investigate how peer pressure affected people's buying habits throughout the pandemic. An online survey was administered to 4783 participants over 65 years during the first peak period of the COVID-19 contagion in European.

Methods The survey collected data on CB toward requisites and non-requisites, as well as various psychological factors, including anxiety, COVID-related fear, depression, personality traits, perceived economic stability, and self-confirmations for purchasing. Statistical analyses, including regression models, were conducted to examine the associations between these variables.

Results The study found that the COVID-19 epidemic had a significant effect on CB, leading to higher spending and a shift in the desire to buy both essentials and luxuries. However, it is important to note that the study only used a non-clinical sample, and more research on dysfunctional CB is needed.

Conclusions The research also highlighted the significance of thinking about contextual elements and the possibility for CB to change over time. Nonetheless, the findings of this study shed light on CB in times of health crisis, which is useful for planning ahead.

Keywords: consumer behaviour(CB), COVID-19 epidemic, requisites, non-requisites, anxiety, self-confirmations.

1. Introduction

COVID-19 had a significant effect on societies all around the world, changing many facets of daily life, including consumer behaviour (CB). People frequently look to social influence for direction as they make judgements and take acts as they manage the uncertainties and obstacles brought on by the epidemic (Zwanka and buff, 2021). The process by which people's thoughts, feelings, and behaviours are influenced by other people in their social environment was referred to as social influence. CB in the COVID-19 scenario includes the preferences, selections, and purchases people make in reaction to the ongoing emergency. The epidemic has changed societal conventions, health concerns, and priorities in addition to changing the economic environment (Khayru, 2021). In the new setting, social influence plays a bigger part in determining CB. Additionally, the epidemic's social influence goes beyond the immediate social environment. The reach and influence of social influence have been expanded because to the connectivity made possible by social media platforms and online communities (Ahmed, et al., 2020). By endorsing goods, disseminating health-related information, and encouraging particular behaviours, online influencers, celebrities, and public personalities have significantly influenced CB (Singh, et.al., 2021). Informational influence is a common type of social influence that happens when people turn to others for advice and information in murky or confusing circumstances. People have sought information and guidance during the COVID-19 from a variety of sources, including government health organisations, social media, friends, and family, in order to comprehend the risks connected with the virus, preventive measures, and suggested goods or services. These sources of information have altered CB by encouraging people to acquire new habits, alter their consumption patterns, and give particular goods or services

priority over others. Gustiana & Saepudin, (2021), examined COVID-19 psychographic behaviour, and other marketing endeavours. The paper's implications were intended to inform marketers of potential long-term CB changes brought on by COVID-19 in 2020. This illness outbreak's spread has had an impact on CB. Online shopping patterns changed as a result of the epidemic. To prevent transmission, consumers avoid personal contact. Chen, et al., (2022), opinions on how COVID-19 outbreak affected CB are reviewed. As a moderator of this impulse purchasing behaviour, they used COVID-19. The findings supported the notion that fear of a total lockdown, peer purchasing, a lack of stock of requisite, US stimulus checks, a scarcity of requisite, and panic buying all had a strong and positive impact on the sudden swings in impulse buying patterns (Silva et al., 2022). The findings indicate that traditional online shopping and web rooming were the most popular forms of shopping during the COVID-19 (Li, et al., 2021). The purpose was to determine the variables that affect consumers panic purchase decisions during COVID-19 (Singh, et al. 2021). Gustiana & Saepudin, (2021), goal was to investigate Indonesia's social and psychological effects so that they may be swiftly addressed. The research technique utilised was called a literature review. Findings indicate that COVID-19 in Indonesia was having a social and psychological influence on practically every level of society. The panic buying phenomenon was the focus of the Chen, et al., (2022), which also quantifies the internal and external factors influencing individual buying behaviour, restores the individual buying behaviour selection process, and builds an emergence model of group panic buying behaviour using the concept of cluster dynamics. The purpose was to investigate the factors that influence consumers' behavioural intentions to use online dining, entertainment, and educational services both during and after the COVID-19 (SUNARJO, et al., 2021). Utilising information gathered from a sample of 420 Brazilian customers, structural equation modelling was used to evaluate UTAUT. In order to investigate the psychological reasons underlying conformity in CB during COVID-19, Li, et al., (2021), suggested and examined a theoretical framework. Based on the findings, recommended that the government put reasonable controls in place to decrease the sense of foreboding caused by the external threat posed by the COVID-19. SUNARJO, et al., 2021, aimed to determine whether the adoption of mobile payment technology is thought to be most effective during COVID-19 by examining the characteristics of technology users, their technological expertise, and the effect that knowledge may have had on the adoption of new technologies. Michalikova, et al., (2021), aimed to analyse the available data on the use of delivery applications during COVID-19. Earlier data were combined to show that customer behaviours in locating information about ready-to-eat food in line with that knowledge have changed how internet delivery was done. Hashem, (2020), goal was how CB changed towards online shopping during COVID 19 epidemic. A simple random sample was subjected to an online survey about their consumption patterns prior to and following the epidemic. The findings showed that COVID19 epidemic was successful in influencing CB to depend more on online buying. Omar, et al.,(2021) looked at the psychological influences that uncertainty, severity perceptions, scarcity perceptions, and anxiety had on customers' panic buying behaviour. Given that COVID-19 was expected to break out in 2020, it was carried out in Malaysia. Habib and Hamadne, (2021), examined the UTAUT2 model's effects on perceived risk and consumer trust in Indian consumers' online purchase intentions for products in the grocery category. They created the hypotheses in an effort to analyse the growth potential of new technologies in food retail. The findings indicated that Indian customers' online shopping habits were significantly impacted by COVID-19 propagation. In order to enhance the performance of e-business, Luo, 2021, targets the marketing efforts by using click stream data to estimate real-time online purchase behaviour.

The current study concentrated on CB and the psychological factors that influence it. Our knowledge of how CB changed during the COVID-19 was expanded by the current investigation. An increase in spending and a shift in the urge to purchase requisites and pleasures are have to discover to have resulted from the COVID-19 epidemic's impact on CB.

Paper organization: In section 2, the materials and methods include population, population-related factors, During covid-19 on CB, Costs have changed as a result of COVID-19 and COVID-19 panic, In section 3- Result and analysis, In section 4- Conclusion were demonstrated in this research.

2. Methodology

A web-based survey was used to collect data over a series of queries, that was powered by “Qualtrics software”. The experiment operated between May 2021 to June 2021, when the epidemic was at its most severe in European. Due to the unique circumstances of “COVID 19 epidemic” and time limits for conducting the analysis, we used a convenience sample. So, social media and word-of-mouth were used to find volunteers. Age requirements for inclusion were more than eighteen years and European residency. Initially, socio-demographic data such as education, gender, annual income, and age was gathered. Then, questions distinguishing needs from wants were posed on spending patterns and CB both prior to COVID-19 outbreak. Finally, to examine economic aspects, a number of specially designed questionnaires, psychological, and standardised measures were used.

2.1 Population

In the beginning, 5046 volunteers in total were sought after. 99 participants above the age of 65 were excluded from the study, a distinct population that was not comparable to the remainder of the sample. In addition, 164 people were removed, who denied making any purchases on buying essentials or non-requisite prior to COVID-19. 4783 European participants were thus included.

2.2 Population-related factors

The distribution of ages within a population is an important element. Older people have been more severely impacted by COVID-19 than younger people, especially those with existing medical issues who are more vulnerable to fatal sickness and severe illness. The healthcare systems of ageing populations are under more strain, and mortality rates are rising.

2.3 During COVID-19, CB

During COVID-19, major changes in CB occurred. People's priorities and buying habits changed as a result of the virus's outbreak and the accompanying lockdown measures. Consumers had to reassess their demands as a result of the epidemic, placing a higher priority on requisite like food and household goods as well as essentials for health and hygiene. As consumers tried to reduce their physical encounters and follow social distance rules, online buying increased. Early on in the epidemic, there was a lot of panic buying and stockpiling of requisite due to worries about possible shortages. Consumers reallocated their spending as travel limits and restrictions on leisure activities were put in place, with a decrease in travel and entertainment expenses and an increase in items linked to home maintenance, cooking, and self-care.

Cronbach's alpha and Principal component analysis (PCA) were used in the bigger sample (n= 5046) to assess the reliability and factor structure. Six factors are identified by the results, and the reliability values are satisfactory. Reliability and PCA studies are also conducted on the pattern of results and current subsample was consistent in both situations. To achieve the goals of the current study, we concentrated on three scales: "Requisite, Non-requisite, Self- confirmations". Covid-19 survey on CB shown in table 1 and table 2 shows COVID 19 panic.

Table 1: COVID-19 survey on CB

Scale	module
Requisite	I've felt the need to purchase more health and safety supplies, such as face masks, alcohol-based hand sanitizer, gloves, and hand sanitizer.
	I think I made spontaneous purchases of necessary things.
	Compared to earlier, I've felt the need to purchase more requisite products such as food, health and wellness items, medications, and cleaning supplies.
	I felt compelled to purchase items that I had not previously needed.
Non-requisite	How beneficial did you anticipate Non-requisite products , when you make a transaction.
	How useful do you currently consider the non-requisite things you bought to be?
	Have you purchased any goods that are not considered requisite?
	Contrary to earlier perceptions, I now feel the urge to purchase more non-essential goods.

Self- confirmations	I feel better after making purchases.
	I want to enjoy the purchases I've made because I am confined to my home and alone.
	I can afford to buy a new item since I am saving money by staying in instead of going out.
Spending habits	How much do you believe you were spending each week on requisite before COVID-19 emergency?
	How much do you believe you spend each week on requisite during COVID-19epidemic?
	How much do you believe you were spending each week on non-essential items before COVID-19 epidemic?
	How much do you believe you spend each week on needs during COVID-19epidemic?

Table 2. COVID-19 panic

Scale	module
a sense of contagiousness	I frequently believed that I had the virus.
	I believe I could eventually contract the virus.
	I believe that one of my loved ones or a close friend could be afflicted with the virus.
The effects of infection	I believe that a virus-infected person could recover.
	I believe that a person who has the infection may pass away.
	I believe the likelihood that I would recover from the virus infection is high.
	I believe that contracting the virus could be fatal for me.

2.4 Costs have changed as a result of COVID-19

In particular, we calculated three percentage values for "Modification to General Spending"," Requisite Spending adjustments," and " Non-requisite Spending adjustments" by comparing the amount usually expended in the week before the emergency to the initial seven days of closure.

2.4.1 B5I-10 (Big Five inventory 10-item)

It is a quick scale containing two items for each of the five personality qualities. These characteristics are, specifically, observance, congenial, Attention, equanimity, and agreeableness.

2.4.2 GAD-7 (Generalized anxiety disorder)

Based on the DSM-IV criteria, symptoms and screen for generalised anxiety disorder. This metric is frequently applied to both clinical practise and academic study. Respondents are specifically questioned about how frequently they have felt the effects of anxiety in the last two weeks.

2.5 COVID-19 panic

We gauged our level of fear and worry about the COVID-19 using the COVID-19 panic questionnaire. With the assumption that a person's sense of dread during a medical emergency is influenced by both their supposed susceptibility and the anticipated intensity of the event, this quiz was created. The 8 elements therefore focused on the perceived likelihood of contracting COVID-19.

2.5.1 Perceived stability of the economy

This survey was created to gauge how someone could subjectively perceive their financial condition. The larger sample's PCA showed a one-dimensional structure.

3. Result and analysis

When "Changes in General Spending" were considered, our sample reported an average increase in general spending of 62.58% during the first week of lockdown, based to our data. Additionally, it was found that there were considerable discrepancies between "Changes in Requisite Spending" and "Changes in Non-requisite Spending". In fact, the spending level for requisite increased by 92%, whilst the average growth for non-requisite was just 34.21%. Figure 1 show the means and standard deviations.

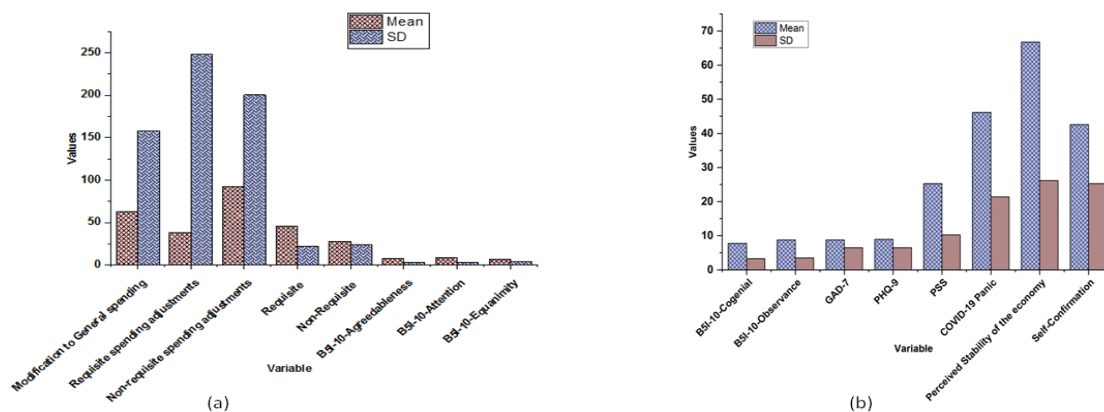


Figure 1. Mean and SD variation

Our early analysis looked at how spending levels changed prior to and throughout COVID-19 pandemic. To compare variations in required and non-requisite spending, we looked at performed paired t-tests and averaged overall spending. Hierarchical multiple regressions were also carried out to comprehend the psychological influences on CB. Prior to examining personality traits, the study first controlled for socio-demographic factors (annual income ranges, age, gender, and educational level). In the third step, emotional antecedents (stress, depression, and anxiety) were entered, and in the fourth phase, the effect of COVID-19 panic was evaluated independently. The perceived economic stability was introduced in the fifth step, and the self-confirmation strategies were added in the last stage. Investigating the relationships between these variables and CB was the goal of these investigations. Tables 3 to 8 list the findings for each action and variable. Overall, this study throws information on the psychological elements impacting consumer behaviour and sheds light on how spending patterns changed throughout the COVID-19 outbreak.

Table 3: Regression analysis for step 1

Variable	Step-1							
	B		SE		β		t	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Education	-.85	2.66	.42	.43	-.04	.11	-2.05*	6.29*
Income Brackets	1.05	-.51	.27	.28	.07	.04	3.96***	1.85
Age	-.12	-.41	-.04	-.04	-.08	-.25	-4.28***	-15.26** **
Gender	3.31	-5.05	.71	.73	.09	-.12	4.72***	-6.98** *
R ²	.03	.08						
R ² Change	.03	.08						
F for change in R ²	14.46***	76.93.54** *						

Table 4: Regression analysis for step 2

Variable	Step-2							
	B		SE		β		t	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Education	-0.85	2.66	.42	.43	-.04	.11	2.06*	6.27***
Income Brackets	1.05	.52		.28		.04	3.96***	1.91
Age	-.08	-.35	.04	.04	.05	-.21	-2.49*	-12.40***
Gender	1.58	-4.81	.72	.75	.05	-.11	4.72	-6.53***
B5I-10 - Equanimity	-1.67	-.04	.17	.18	-.19	.01	-10.33***	0.18
B5I-10 - Agreeableness	-.54	-.44	.21	.22	-.05	-.04	-2.66**	-2.08*
B5I-10 - Observance	-.51	-.73	.18	.18	-.06	.08	-2.97**	4.16***
B5I-10 - Congenial	.17	.18	.19	.18	.02	.02	0.92	1.04
BFI-10 - Attention	-.34	-1.56	.21	.22	-.04	-.13	-1.63	-7.45***
R ²			.06	.08				
R ² Change			.05	.03				
F for change in R ²			30.19***	16.72***				

Table 5: Regression analysis for step 3

Variable	Step-3							
	B		SE		β		t	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Education	.66	2.82	.41	.44	.04	.11	1.64	6.61***
Income Brackets	1.03	-.55	.26	.28	-.07	.04	4.12	3.00*
Age	-.05	-.33	-.04	.04	.03	-.18	-1.45	-11.31***
Gender	-.46	-5.25	.68	.76	-.02	-.12	-0.66	-7.03***
B5I-10 - Equanimity	-.21	.24	.19	.18	-.03	.03	-1.12	1.19
B5I-10 - Agreeableness	-.32	-.39	.18	.22	.04	-.04	-1.63	-1.89
B5I-10 - Observance	-.65	.69	.17	.18	-.07	.07	-3.98***	3.89***
B5I-10 - Congenial	.19	.23	.18	.18	.03	.03	1.03	1.19
BFI-10 - Attention	-.04	-1.38	.21	.23	-.01	-.12	-0.17	-6.49***
PHQ-9	.15	.36	.11	.12	.04	.09	1.42	3.24***
PSS	.21	-.02	.07	.07	.09	-.02	3.31***	-0.20
GAD-7	1.09	-.04	.11	.12	.25	-.02	10.57***	-0.27
R ²	.13	.11						
R ² Change	.08	.01						
F for change in R ²	97.98	5.56***						

Table 6: Regression analysis for step 4

Variable	Step-4							
	B		SE		β		t	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Education	.49.	2.78	.39 .	44	.03	.11	1.26	6.51*
Income Brackets	92	.52	25	28	-.03	04	3.79**	1.88
Age	-.08	-.34	.04	.04	-.05	-.21	4 -2.63**	-11.57***
Gender	-.78	* -5.33	68	.76	-.03	-.13	-1.15	7.15**
PHQ-9	06	* .34	.11	12	.02	08	0.55	3.03
B5I-10 - Equanimity	-.22	-.38	.18	.22 -	-.03	.04	-1.17	1.17
B5I-10 - Agreeableness	-.25	-.38	.18	22	-.03	04	-1.28	-1.79
B5I-10 - Observance	-.58	.71	17	.18	-.06	.07	3.56*	4.03***
B5I-10 - Congenial	.15	.22	.18	20	02	03	0.84	1.15
BFI-10 - Attention	07	-1.38	18	22	02	.12 -	0.32	-6.39***
COVID-19 panic	.07	.08	07	03	03	07	3.31***	3.74****
PSS	.28	-.06	03	08	27	03	15.94***	0.79
R ²	19	11						
R ² Change	07	01						
F for change in R ²	254.59**	13.99***						

Table 7: Regression analysis for step 5

Variable	Step-5							
	B		SE		β		t	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Education	28	2.57	.39	.43	.02	.11	0.72	6.04***
Income Brackets	.55	.15	.26	.28	04	.02	2.23	0.52
Age	-.06	-.32	04	.04	-.04	-.19	-1.98*	-11.01***
Gender	-.45	-4.98	.68	9 .75	-.02	-.12	-0.67	-6.74***
PHQ-9	09	.37	07	12	04	.09	1.45	3.41**
B5I-10 - Equanimity	-.21	-.38	.18	22	-.03	-.04	-1.15	-1.92
B5I-10 - Agreeableness	-.27	.38	18	.22	-.03	04	-1.41	-1.89
B5I-10 - Observance	-.58	68	.17	18	-.06	.07	3.66***	3.98***
B5I-10 - Congenial	.15	.22	.18	.17	-.02	.03	0.86	1.16
COVID-19 panic	.28	.08	03	03	-.27	07	16.06***	3.78**
BFI-10 - Attention	.17	-1.26	18	.23	.02	-.11	0.82	5.95***
PSS	.09	-.03	.07	07	.04	-.02	1.45	-0.28
GAD-7	.88	-.07	.11	.12	.21	-.02	8.95***	-0.57
Self- confirmation								
Economic Stability	.08	.08	.02	.02	.12	.12	7.36***	6.58***
R ²				18	12			

R ² Change				02	02			
F for change in R ²				54.08*	43.38			
				**	***			

Table 8: Regression analysis for Step 6

Variable	Step-6							
	B		SE		β		t	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Education	01	2.09	38	41	01	.09	0.02	5.27***
Income Brackets	.64	.28	25	26	05	.03	2.64** *	1.14
Age	.02 .	-.22	04	04	.01	-.14	0.22	-7.97***
Gender	58	-3.22	.67	.71	.02	-.08	0.88	-4.62***
PHQ-9	-.09	.35	.11	.11	03	.09	0.78	3.35***
B5I-10 - Equanimity	-.17	.31	.18	.19	-.03	.04	-0.98	1.69
B5I-10 - Agreeableness	-.18	-.24	.19	.18	-.02	.03	-0.93	-1.19
B5I-10 - Observance	-.71	.46	.16	.17	-.08	.05	-4.63** *	2.78
B5I-10 - Congenial	.11	.15	.17	.18	02	.02	0.64	0.84
BFI-10 - Attention	-.18	-.24	.19	.18	02	-.03	-0.93	-1.19
COVID-19 panic	.24	.02	.03	.03	.24	.02	14.09* **	0.35
PSS	09	-.03	07	.07	04	-.02	1.47	-0.32
GAD-7	93	-.01	11	11	.22	-.01	9.53** *	-0.04
Self-confirmation	18	.35	.02	.02	.23	.38	14.41	23.88***
Economic Stability	24	.04	.03	.02	.24	.05	14.09* **	2.31*
R ²			.24	.24				
R ² Change			.05	.13				
F for change in R ²			207.38***	571.48***				

4. Conclusion

The findings of this study showed that the COVID-19 significantly affected CB. In the sample we used, the result of this effect was greater expenditure and a psychological impulse to purchase both requisites and discretionary items. A number of psychological factors have been demonstrated by our data to be predictive of these changes in CB. Notably, CB towards needs versus wants varied according to specific psychological factors.

It is necessary to acknowledge some of the current study's limitations. First off, because we looked at CB broadly and used a non-clinical sample, we did not consider dysfunctional components of it, such as hoarding

behaviour, compulsive shopping, which the emergency may trigger. Therefore, it would be intriguing to combine our findings with studies of functional features of CB in relation to the COVID-19.

Future research may therefore use a finer-grained technique to separate the contributions of the various factors. Another issue was that we only started gathering data at the start of the European COVID-19 outbreak. It would probably be possible to capture the larger change in CB by paying particular attention to the first several hours of the protection, providing solid evidence for the epidemic's first effects on consumers.

References

- [1] Zwanka, R.J. and 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), pp.58-67.
- [2] Khayru, R.K., 2021. Opinions about Consumer Behavior during the Covid-19 Pandemic. *Journal of Social Science Studies (JOS3)*, 1(1), pp.31-36.
- [3] Ahmed, R.R., Streimikiene, D., Rolle, J.A. and Pham, A.D., 2020. The COVID-19 pandemic and the antecedants for the impulse buying behavior of US citizens. *Journal of Competitiveness*, 12(3), p.5.
- [4] Singh, G., Aiyub, A.S., Greig, T., Naidu, S., Sewak, A. and Sharma, S., 2021. Exploring panic buying behavior during the COVID-19 pandemic: a developing country perspective. *International Journal of Emerging Markets*, (ahead-of-print).
- [5] Gustiana, B. and Saepudin, A., 2021. PSYCHOLOGICAL SOCIAL IMPACT IN INDONESIA ON THE TIME OF COVID-19. In *International Conference Universitas Pekalongan 2021 (Vol. 1, No. 1, pp. 333-340)*.
- [6] Chen, T., Jin, Y., Yang, J. and Cong, G., 2022. Identifying emergence process of group panic buying behavior under the COVID-19 pandemic. *Journal of Retailing and Consumer Services*, 67, p.102970.
- [7] Silva, J.H., Favoretto, C., Amancio, I.R., Ganga, G.M., Lizarelli, F.L. and Mendes, G.H., 2022. Consumer behavioral intention to use restaurant, concert and education services online during and after the COVID-19 pandemic: Evidence from Brazil. *International Journal of Quality and Service Sciences*, (ahead-of-print).
- [8] Li, J., Jin, X., Zhao, T. and Ma, T., 2021. Conformity consumer behavior and external threats: An empirical analysis in China during the COVID-19 pandemic. *Sage Open*, 11(3), p.21582440211032152.
- [9] SUNARJO, W.A., NURHAYATI, S. and MUHARDONO, A., 2021. Consumer behavior toward adoption of mobile payment: a case study in Indonesia during the COVID-19 pandemic. *The Journal of Asian Finance, Economics and Business*, 8(4), pp.581-590.
- [10] Michalikova, K.F., Blazek, R. and Rydell, L., 2022. Delivery apps use during the COVID-19 pandemic: consumer satisfaction judgments, behavioral intentions, and purchase decisions. *Economics, Management and Financial Markets*, 17(1), pp.70-82.
- [11] Oana, D., 2020. The impact of the current crisis generated by the COVID-19 pandemic on consumer behavior. *Studies in Business and Economics*, 15(2), pp.85-99.
- [12] Hashem, T.N., 2020. Examining the influence of covid 19 pandemic in changing customers' orientation towards e-shopping. *Modern Applied Science*, 14(8), pp.59-76.
- [13] Omar, N.A., Nazri, M.A., Ali, M.H. and Alam, S.S., 2021. The panic buying behavior of consumers during the COVID-19 pandemic: Examining the influences of uncertainty, perceptions of severity, perceptions of scarcity, and anxiety. *Journal of Retailing and Consumer Services*, 62, p.102600.
- [14] Habib, S. and Hamadneh, N.N., 2021. Impact of perceived risk on consumers technology acceptance in online grocery adoption amid covid-19 pandemic. *Sustainability*, 13(18), p.10221.
- [15] Luo, C., 2021. Analyzing the impact of social networks and social behavior on electronic business during COVID-19 pandemic. *Information Processing & Management*, 58(5), p.102667.