

# Game to Watch: COVID-19 Fosters the Online Shopping of Ambient Products Through Affecting Consumer Buying Behavior

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## Abstract

Consumer buying is one of the most researched topics in the domain of marketing. However, since the wake of COVID-19 the research work under this vein takes a new shape. Therefore, the need to analyze consumer buying behavior at the wake of pandemic became vibrant again. Hence this study has been done specifically to observe the impact of COVID-19 on preference of online shopping of ambient products. Thus, through convenience sampling and incorporation of google doc the data has been collected from the customers of online marts. However, the model is improved version on online shopping at the wake of COVID-19, therefore the testing has been made through SMART-PLS which indicated definite impact of COVID-19 on change in consumer buying so as on online shopping of ambient products.

**Key Words:** COVID-19, Consumer Buying Behavior, Ambient Products, Online Shopping & Pandemic

## 1. Introduction

On December 31, 2019, the World Health Organization was notified of pneumonia cases of unknown origin in Wuhan, China. The Chinese authorities identified the disease COVID-19 on January 7, 2020 (Lu et al., 2020). The disease has a significant effect on the world economy and international trade, with huge losses in industries. Businesses face enormous challenges and their revenue levels plummet. Since the government announced a strict ban or implemented strict measures on people's health due to this scenario changing the behavior of consumers, the trading system for exported goods and Imports must be disrupted as a result of this pandemic (Leach, MacGregor, Scoones, & Wilkinson, 2021).

Social distancing to minimize the spread of the covid19 pandemic, consumer movement to online markets, global closures and other similar measures have been taken (Alessa & Alotaibie, 2021). The COVID-19 outbreak has drastically changed and changed the attitudes, intentions and shopping habits of consumers. This global problem is exacerbated by globalization, the interdependence of markets and countries, and its distribution in unprecedented ways to technical media (Laato et al., 2020).

Online shopping is one of the fastest growing markets. But in the age of COVID 19, when other areas have stabilized, only online shopping has the best response (Laato et al., 2020). It seems like a sudden shift in customers across online channels due to demand. New prevention

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strategies and related regulations have been developed to significantly increase public awareness regarding agoraphobia and depression (Hassan & Soliman, 2021). Hence marketers develop a systematic strategy to offer their services to consumers, and they can create various websites to connect with customers very effectively. Now the trend of online system has appeared in this pandemic, consumer shopping behavior has changed, and the scanning system has spread all over the world, consumers can easily buy and buy items online (Tran, 2021). As a result, the pandemic has seen a rapid increase in internet sales. The reason why sales continue to increase is because more and more people are shopping online and shopping online is increasing (Dannenberg et al., 2020). Due to the pandemic increase in Internet usage, shoppers can locate and shop anywhere and anytime using various online shopping apps with quick payment options quickly and safely (Rastogi, 2010).

## **1.2 Purpose of the Study**

This study aims to determine the impact of COVID 19 on consumer customers through the mediating effect of online purchases. The COVID-19 outbreak has had a profound impact on the retail industry since a new type of customer behavior was born under the influence of this outbreak.

Secondly, online shopping systems have grown, and surveys show that more than 60% of consumers avoid offline shopping (Bhatti et al., 2020). In fact, hedonic motivation makes consumer feel more pleasure, comfort and focus towards purchase that has also been positively associated with online purchase (Noorani et al., 2020 & Al Halbusi et al., 2021). Therefore, the purpose and scope of this study is to analyze consumer buying behavior, learn more about the importance and main purpose of online shopping, and determine the consumer situation during a pandemic.

## **1.3 Statement of Problem**

The demand for digitalization and e-commerce is growing rapidly, and as a result of this pandemic, this trend should impact business profits. As a result of this pandemic, companies may change their business strategies and create new and innovative strategies to attract loyal customers (Abbasi et al., 2020, & Islam & Pitafi, 2021). Online shopping provides a great platform for consumers to buy services online and also provides marketers with a profit margin. However, as a result of this pandemic trend, offline sales are declining and customer visits are declining each year in physical stores. However, consumers prefer to buy online. This is more beneficial for offline purchases (PWC, 2016). Nevertheless, the choice between different shopping channels depends on the behavior of the customer. Pandemic restrictions are expected to change the buying behavior of the consumer (Alaimo, 2020). More specifically, the focus of this paper coincides with Hoyer and Krohmer (2020) to clarify the role of COVID-19 in changing customer behavior when purchasing.

## **1.4 Research Questions**

**RQ1:** Does COVID-19 modify consumer buying behavior?

**RQ2:** Does COVID-19 have an impact on online shopping of ambient products?

## **1.5 Research Hypothesis**

**H<sub>1A</sub>:** There is significant relationship between COVID-19 & consumer buying behavior

**H<sub>2A</sub>:** There is significant relationship between consumer buying behavior & online shopping

**H<sub>3A</sub>:** Consumer Buying Behavior mediates between COVID-19 & online shopping

## **1.6 Significance of the Study**

This is one of the unique studies as the study is indicating change in consumer behavior as the mediating variable. The change is reflected by some of the latest studies from other developing sides of the world like India (Verma & Naveen, 2021). Although there is a need to understand the impact of change in consumer buying behavior not only with respect to Pakistan but also with respect to the COVID-19 and online purchase of ambient grocery (Zuluĝ et al., 2022). Hence the study is pervasive and might be beneficial for the academia as well as research process.

## **2. Literature Review**

COVID-19 is a devastating virus that is negatively impacting economic and manufacturing growth. It not only lowers the country's GDP, but also affects the basic necessities of education, health and life. Hence the buying behavior is changed & consumers have switched to digital sources, but due to lack of income and high unemployment rate, this is not in common. Although outbreak of pandemic is also producing severe negative impact on the health (Loxton et al., 2020).

Therefore, blockade people are looking to online systems and ordering everything through various online apps. This has a direct impact on consumer shopping behavior and the declining trend of offline purchases, affecting the global economy (Sumarliah et al., 2021). In fact, one of the studies from India also indicated that people in India become so reluctant to go to restaurants and prefer to purchase through online (Moorty, Venkataraman & Rao, 2020).

Similar has been indicated by Hobbs (2020) that during the blockade, most consumers were forced to eat at home, so food companies used new technologies to increase online sales (Hobbs, 2020). In fact, Arora et al (2020) observes consumer behavior all over the globe and indicated that during COVID-19 consumer preferer to purchase online. Therefore, enterprises and other sectors are also required to develop new policies to meet customer needs and requirements while focusing on customer digital capabilities and building trust and satisfaction (Pop et al., 2021).

Arora et al (2020) indicated that there COVID-19 produces major change in consumer buying behavior across the globe and people prefer to shop online. On the other side Al Halbusi et al. (2021) indicated that hedonic motivation is also associated with online buying behavior. However, one of the previous studies also indicated that online purchase is related not only with hedonic but with utilitarian motives as it is related with the usefulness of the behavior (Van der Heijden, 2004). In fact, perceived usefulness is more important predictor of online shopping in comparison to the perceived enjoyment (Wen et al., 2011).

On the other hand, study also notices that the major focus of consumer purchase especially during the wake of pandemic was towards ambient grocery (Zuluĝ et al., 2022). Hence in association with Ali et al (2020) this study uses technology reediness (TR) theory as the base of

the research. Similarly, in association with Chiu Oh and Cho (2022) the major predictor (IV) variable for the study is COVID-19 that seriously increases the impulsive buying behavior associated with e-commerce sales. Although studies from developing sides of the world notices severe change in choices related with purchase destination, type of goods purchased and adoption of digital payment. Hence also possess the need to understand the shift in consumer buying behavior so to understand new theories, marketing strategies and post COVID-19 situation in an effective way (Verma & Naveen, 2021). Hence this study uses mediation of consumer behavior in order to assess the role of change in consumer behavior during COVID-19 online purchase activities with the reference of mega city Karachi.

### **3. Research Methodology**

Research Methodology is the structure or pattern which has been used by researchers to carry out the research work. It also reflects the way that has been utilized by researchers to develop research problem through linking it with research objectives and to also to reflect results on the base of collected data. There are several components of research methodology like research strategy, research design, sampling design, data collection and analysis (Sileyew, 2019). However, the major two parts are research design and sampling design (Žaukauskas et al., 2018)

#### **3.1 Research Design**

Research design is based on the selection of research approach and appropriate framework for the conduction of study. It actually based on several inter-related decision on the collection of relevant information for the study (Sileyew, 2019). Although to obtain the required information the study follows the indications of Saunders et al (2007) and Saunders et al (2015). Hence the philosophy of research is to increase the level of understanding with respect to effect of COVID-19 on online shopping with the mediation of change in consumer behavior. The philosophical stance is post-positivism that is relatable to both qualitative as well as quantitative designs although most of the times it has been used for quantitative analysis (Adam, 2014). Research approach was deductive & research strategy was survey (Saunders et al., 2007) as the study is to collect firsthand information through closed ended questionnaires from customers as the one conducted by Verma & Naveen (2021). Hence through using these criteria the information has been collected from the customers of online marts.

#### **3.2 Sampling Design**

Non-Probability sampling through online questionnaire has been used through following the footsteps of Nguyen et al (2020) in order to collect data from active customers of online stores as done by Ali (2020). However, the study of Ali (2020) was based on generic online purchase rather than towards the change in consumer behavior pattern towards online mode of purchase due to COVID-19. Thus, instead of using sample of 200 respondents neither as Al-Hattami (2021) nor like Pham et al (2020) that uses sample of 400. The sample for this study is 500 as research related with consumer studies must be backed by sample size ranges from 200-500 as indicated by Churchill and Lacobucci (2006)

#### 4. Statistical Testing and Evaluation

Structural Equation Modelling has been applied in order to analyze the impact of COVID-19 on Online shopping. The technique was already applied by several studies under this vein for e.g. Koch Frommeyer and Schewe (2020).

On the other hand, studies like Ali (2020) uses regression analysis to predict consumer buying behavior associated with online shopping. Hence the use of SEM through SMART-PLS is legitimate as SEM is the tool used to analyze complex models (Khan, 2022) with multiple regression models (do Nascimento & da Silva Macedo, 2016). Figure 1 is indicating outer loading in order to show confirmatory factor analysis.

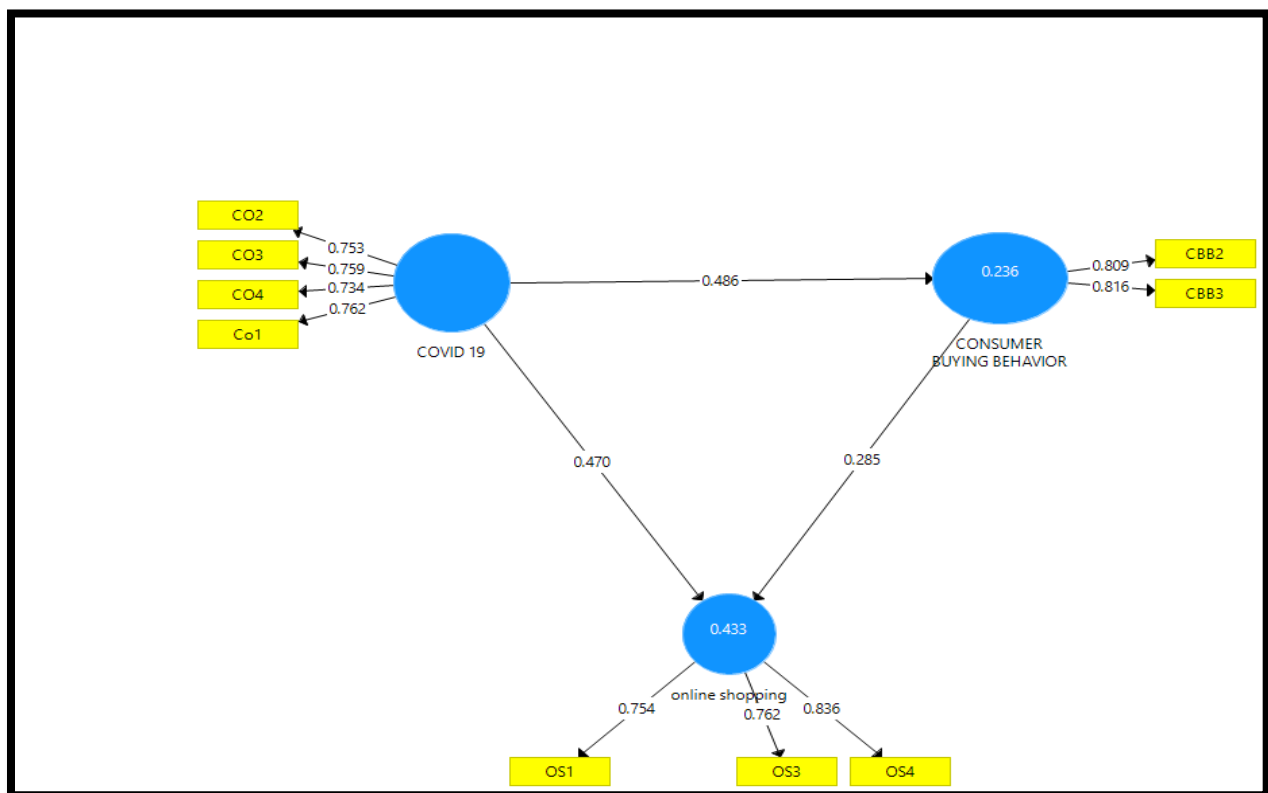


Figure 1: Outer Loading (Confirmatory Factor Analysis)

Though PLS-SEM is introduced back in 1960s but that was not familiar in education circle since the introduction of software like PLS-Graph, Wrap-PLS and SMART-PLS etc. (Wong, 2016). SMART-PLS is variance-based model with theory and hypotheses as the background of the model in which variables and their indicators makes path which underlines the theory that is potent to reflect causal relationship (Sander & Teh, 2014). Several studies use Structural Equation Modeling through SMART-PLS, especially for mediation and moderation analysis for research in management & related disciplines. Study also uses the reference of Davari and Rezazadeh (2013) to indicate that SEM through SMART-PLS is an effective tool to analyze bunch of equations (Iqbal et al., 2021).

Analyses through SMART-PLS are based upon structural model and measurement model and for analysis of measurement model we need to analyze internal item reliability, convergent validity, internal consistency & discriminant validity (Hair et al., 2014)

Figure 1 is indicating out loading that is the reflection of factor loading for all the items that are included in the study. However, for the purpose of validation there is a need to assume that indicator that have value of 0.5 or above might remain the part of the study while those with lower values than 0.5 must be deleted (Afthanorhan, 2013). Although values higher than 0.70 are actually recommended for the inclusion of elements as the value of elements are the measure of score that particular question has received as the indicator of the variable (Trianasari et al., 2022). Hence on the bases of these criteria there is no element (indicator) in figure 1 that must be deleted as the minimum value of outer loading is 0.734 that is more than the benchmarks mentioned above.

**Table 1:** Predictive Accuracy (Quality Criteria)

	<b>R Square</b>	<b>R Square Adjusted</b>
<b>Consumer Buying Behavior</b>	0.436	0.429
<b>Online Shopping</b>	0.373	0.362

Table 1 is reflecting co-efficient of determination and it is actually the variance in latent endogenous variable caused by the change in major predictor or independent variable. The value if reflected through  $R^2$  (Hair et al, 2011 & Hair et al., 2012). Although the optimal value for the coefficient of determination is based on contextual elements (Hair et al., 2010) and the initially the range of values for  $R^2$  started from 0.10 (Falk & Miller, 1992).

However, the values of  $R^2$  in table 1 are 0.436 & 0.373 for Consumer Buying Behavior and Online Shopping respectively. That is not only much higher than the above-mentioned criteria but also has more value than the least criteria given by Sundarsono et al (2021) for the criteria for R-Square.

#### **4.1 Construct Reliability and validity**

**Table 2:** Construct Reliability & Convergent Validity

	<b>Cronbach's Alpha</b>	<b>Rho_A</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
<b>Consumer Buying Behavior</b>	0.785	0.772	0.795	0.66
<b>COVID-19</b>	0.724	0.747	0.839	0.565
<b>Online shopping</b>	0.701	0.716	0.828	0.616

Table 2 is placed to reflect construct reliability and convergent validity. Construct reliability has been based upon Cronbach Alpha ( $\alpha$ ), Goldstein rho & Composite reliability (Sijtsma, 2009 a & b). Similarly, convergent validity has been reflected through composite reliability and (AVE) Average Variance Extracted (Fornell and Larcker, 1981 & Sijtsma, 2009 a & b) Though AVE with value of 0.5 or above is sufficient to indicate convergent validity.

On the other side it has also been mentioned that the value of Cronbach Alpha ( $\alpha$ ) must be 0.7 or above and Composite Reliability must be at least 0.6 or above (Shoukat et al., 2021 & Yaacob et al., 2021). Therefore, in the light of the mentioned criteria the values of reliability indicators and validity indicators confirms the adequacy of table.

#### 4.2 Hetertrait- Monotrait Ratio

**Table 3:** Discriminant Validity (Heterotrait -Monotrait Ratio)

	Consumer Buying behavior	COVID -19	Online Shopping
<b>Consumer Buying Behavior</b>			
<b>COVID-19</b>	0.809		
<b>online shopping</b>	0.845	0.84	

Table 3 is used to indicate discriminant validity through the use of Heterotrait-Monotrait Ratio that is one of the key criteria for assessing discriminant validity along with Fornell and Larcker (1981) criterion. Although HTMT has gain attention and preference over the use of Fornell and Larcker (Iqbal et al., 2021 & Rashid et al., 2021). Therefore, this study also uses HTMT as the reflection of discriminant validity and uses the indication of Hair et al (2019) to indicate that values below 0.85 are good indicator of discriminant validity.

**Table 4:** Path-Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
<b>CBB --&gt; OLS</b>	0.285	0.281	0.093	3.054	0.002
<b>COVID-19--&gt; CBB</b>	0.486	0.498	0.116	4.206	0
<b>COVID-19--&gt; OLS</b>	0.47	0.48	0.083	5.653	0

Table 4 is the part of inferential analysis and it is the part of structural model (Silaparasetti, Rao & Khan, 2017) & the purpose is to show boot strapping analysis (Thaker et al., 2020 & Rehman et al., 2021). SMART-PLS uses 5% level of significance for making inferential statistics through 500 sub samples. The reflections of result are based on t-statistics with the values of 1.96 or above (Wong, 2013). Hence, in the light of the given criteria COVID-19 does has an impact over Consumer Buying Behavior as well as on online shopping. Similarly, Consumer Buying Behavior also have significant impact over online shopping. Although the value of t-statistics for the relationship of COVID-19 on online shopping is 5.653 that is more than the t-statistics value for the relationship of Consumer Buying Behavior & online shopping i.e., 3.054. Therefore, it is legitimate to believe that the mediation of consumer buying behavior is partial and that means COVID-19 has itself the major tendency to predict online shopping.

#### 5. Conclusion & Discussion

This study proves that COVID-19 has significantly modified the consumer behavior and produces impact on online shopping, especially for the ambient grocery. Hence completely in

line with the indications and literature of Arora et al (2020) and Zuluğ et al. (2022). Although, the study has been conducted with respect to Pakistan that is one of the developing countries of the world, therefore the study also fulfills the indications given by Verma and Naveen (2021). Hence legitimate to declare here it has been observed that outbreak of pandemic does modifies the consumer buying behavior which was the massive question raised by the researchers e.g. Alaimo (2020) and Zuluğ et al. (2022) etc regarding the developing sides of the world. Although the mediation provides to be partial mediation and therefore it is legitimate to believe that COVID-19 itself may affect online shopping Chiu et al (2022).

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