

## ARTICLE

# Study on the impact of COVID-19 on the purchase and mental behaviour of Indian consumers during lockdown

Rajesh K. Srivastava<sup>1</sup> | Sandeep Bhanot<sup>2</sup>

<sup>1</sup>Professor and HOD-Marketing and Research, Sydenham Institute of Management University of Mumbai-160 years of standing

<sup>2</sup>Associate Professor, SIESCOMS, University of Mumbai

## Correspondence

R.K. Srivastava, Professor and HOD-Marketing and Research, Sydenham Institute of Management University of Mumbai-160 years of standing.  
Email: [rks\\_pmc@yahoo.com](mailto:rks_pmc@yahoo.com)

## Abstract

This study surveys the mental behaviour and purchase behaviour of Indian consumers, especially their online purchase behaviour, during a lockdown. Also, it studies their perceptions of job security during a lockdown. Primary data were collected using judgement sampling, and the sample size was 328. Demographic variables such as age, gender, and income affect online purchases in the present study. An increase in the purchase of essentials and hygiene products during COVID-19 has been observed due to a change in mental behaviour. Government have imposed total lock down and prevented people to come out from their houses which resulted in to uncomfortable position. The theory of fear (Ruiter, et. al., 2001) has been applied to explain the purchase behaviour during COVID-19 in emerging markets like India.

## 1 | INTRODUCTION

The coronavirus (COVID-19) pandemic not only upended the economy, but it has also been instrumental in making several changes in purchase behaviour, online transactions, mental fitness, etc. COVID-19 is a “succession of impacts” (Mathew, 2020) as it travels from geography to geography. According to Mathew (2020), India was under lockdown till 31 May 2020, which began on 25 March 2020, to contain the spread of COVID-19. It affected the economic conditions of the country and extended till 2021 end to control the spread of COVID-19. As per a New Delhi Television (NDTV, 2020) report, “India’s GDP was reduced to 2.5 percent from 5.3 percent estimated barely 10 days ago before the lockdown condition to curb the spread of COVID-19” (Economic Times [ET], 2020). Consumers were panicking and their confidence level decreased, according to the study by Mohanty (2020). As per the Nielson study (2020), there was a rapid rise in the purchase and sales of hand sanitisers, medical masks, and household maintenance masks.

The COVID-19 pandemic has created a health crisis across the globe leading to “unpredictably changed behaviour” (Di Crosta et al., 2021). The present study focused on consumer behaviour and its psychological antecedents in order to understand the changing behaviour. Consumer behaviour towards shopping during the COVID-19 crisis is changing and their panicked behaviour may be due to

fear. Fear of COVID-19 infection is likely to influence shopping products (Mehta, Saxena, and Purohit, 2020). The health crisis and lockdown have caused economic insecurity in the country (Srivastava, 2020). With “economic instability, consumers are also experiencing a transformation in behaviour, though how much of the transformation experienced during the crisis will be sustained is a question” (Mehta, Saxena, and Purohit, 2020). The present paper looks at consumer behaviour during COVID-19 crisis and during the lockdown period.

The response to the pandemic may vary depending upon the demographics (e.g., Bish and Michie, 2010; Bhanot and Srivastava, 2015; Srivastava, 2017; Srivastava, 2020; Pantano et al., 2020; Seth, 2020). Will purchase behaviour change under lockdown conditions or vary based on demographic variables? (Rq1). What will be the mental state of the respondents of differing demographic variables during lockdown conditions and how will they adopt technology like online purchasing? (Rq2). Is it fear—as per the theory of fear—that influences the behaviour? (Rq3). This study adds knowledge to existing marketing and e-commerce research on COVID-19. Therefore, the study aims to find out the response to COVID-19 by different demographic variables on purchase behaviour during this period. The study’s goal is to add to the understanding of changing consumer behaviour under COVID-19 by conducting specific research in emerging markets. The present paper also aims to give an insight into the categories of segments commonly used during crises under COVID-19 in emerging markets like India. The present study will try to find out the perception of government initiatives and their implementation. The paucity of research related to COVID-19 in emerging markets like India could be a limitation in the literature review.

The remainder of this paper is organised as follows: The second section contains a literature review based on limited research, as the COVID-19 pandemic is new. The third section presents the application of theory; a theoretical construct is developed based on variables identified through literature review, and hypotheses are developed based on the research questions. The fourth section presents the methodology. The fifth section describes the results in two subsections: descriptive analysis and hypothesis testing. Discussion and validation of the theoretical construct follow the results. Finally, the last section closes the paper with conclusions, limitations, and scope for further study and managerial implications. The contribution of the study is discussed immediately after the results.

## 2 | LITERATURE REVIEW

The literature review is limited to few research papers. It is mainly due to the limited availability of research papers across the globe, including India, as COVID-19 started a little later in 2020 in India. However, a lot of research has been published on COVID-19 and consumer behaviour recently. Selected research papers relevant to the study have been added.

The literature review has been divided into different segments to better understand the research gaps.

### 2.1 | COVID-19 and online purchases

The effect of an epidemic outbreak led to a “disruption in consumer spending” as reported in the study by Hojin et al. (2016). There was more usage of technology-based payments compared with traditional cash transactions (Hojin et al., 2016). Pandemic situations create uncertainty in the minds of consumers (Goswami and Chouhan, 2021). Therefore, it is possible that consumers may behave in the same way during the COVID-19 period (Srivastava, 2020; Pantano et al., 2020). A sharp increase in “online purchases as related to the COVID-19” is reported by Clement et al. (2020) and also by others such as Naeem (2020), Ali (), and Eger et al. (2021). The number of buyers increased

by 29% during COVID-19, and “weekly purchase has the highest percentage” for the 20–34 age group, as mentioned in a study by Butu et al. (2020). These findings are useful for an Indian study because they provide guidelines for it. Pruett (2020), Pantano et al., (2020), Ali (), and Goswami and Chouhan (2021) reported new consumer trends in how people buy and what they buy under COVID-19.

Consumers are changing their habits of spending, and this has led to some product categories increasing their sales. Things are changing each day, and a study by Criteo research (2020) says that “more than half (52 percent) of Americans will shop online more as a result of COVID-19, and 51 percent say they’ll buy more groceries online” (Pruett, 2020). The researcher’s motivation to take on this topic comes from observing the Indians’ purchase behaviour during COVID-19 when compared with American or Romanian studies. The next section is related to the mental state of consumers during the pandemic and COVID-19.

## 2.2 | Mental state of consumers during a pandemic

Research has demonstrated that people show higher levels of fear and anxiety when they perceive a greater severity or possibility of negative consequences from threat information during pandemics (Qian, Ye, and Dong, 2003; Ruitter et al., 2014; Mason, Narcum, and Mason, 2020). People show more negative emotions, such as tension, panic, anger, pessimism, and helplessness (Floyd, Prentice-Dunn, and Rogers, 2000; Qian, Ye, and Dong, 2003; Manabe et al., 2012; Ruitter et al., 2014; Zwanka, and Buff, 2021). These were also reported in earlier studies by Srivastava (2020), Li et al. (2020), Naeem (2020), and Wu, Deng, and Liu (2021). This could be due to people not following safe distances, wearing masks, or the high density of the population. It leads to a greater possibility of contact with these infected neighbours (Wu, Deng, and Liu, 2021). Individuals’ protective behaviours are the consequences of decision processes based on anxiety, mental disturbances, and fear.

Manabe et al. (2012) found that H5N1 patients present in nearer neighbouring areas can lead to greater panic in residents. Panicked citizens are more eager to seek more information about pandemics because the media offer people a good understanding of a pandemic’s prevalence and nature (Zhu et al., 2008). Consumers are likely to behave in the same way as they behaved in earlier pandemics, as there is a common factor—fear (Srivastava, 2020; Wu, Deng, and Liu, 2021). Fear of getting infected by coronavirus is driving consumers’ anxiety, fear, and change in purchase behaviour during COVID-19.

## 2.3 | Impact of COVID-19 on consumer mental behaviour

COVID-19 has given anxiety due to lockdown conditions to many consumers who are not used to such conditions. Therefore, understanding the mental state of consumers is important, as it will affect their behaviour. Clement et al. (2020) reported that “fear appeal is associated with an increase in online purchases. Keeping people calm and focused is necessary during an epidemic and its quarantine period” (Yasir et al., 2020). According to Li et al. (2020), “negative emotions (e.g., anxiety, depression, and indignation), and sensitivity to social risks” are observed with lower satisfaction during COVID-19. Consumers showed more concern for their health (Li et al., 2020; Di Crosta et al., 2021). Therefore, it will be interesting to study Indian consumers in emerging markets like India during a pandemic due to a paucity of similar research. The next section deals with the application of theory and developing a theoretical construct and hypotheses.

### 3 | APPLICATION OF THEORY AND DEVELOPING ATHEORETICAL CONSTRUCT AND HYPOTHESES

#### 3.1 | Application of theory

COVID-19 has instilled a sense of fear and anxiety among Indian consumers (Srivastava, 2020). The consumer behaviour of consumers is changing to adapt to the new reality. Fear is more common among consumers due to uncertainty. The behaviour under COVID-19 is attempted to be explained using the theory of fear (Ruiter, Abraham, and Kok, 2001). “Fear is an influential motivator of change in behaviour as it can stimulate health-promoting behaviour” (De Hoog, Stroebe, and De Wit, 2007). It assumes that fear drives belief change and behaviour change in any pandemic scene. Fear distracts behaviour through the threat of impending danger or harm—this is also possible during COVID-19. Fear appeal affects beliefs and behaviour (Srivastava, 2020; Mehta, Saxena, and Purohit, 2020). Fear generated among consumers is common for any pandemic, including COVID-19.

Fear can significantly influence individuals’ threat appraisal and emotions (e.g., fear and anxiety), which can also be influenced by individuals’ personality and prior experience (Floyd, Prentice-Dunn, and Rogers, 2000). Based on these assumptions, previous researchers used the fear theory to explain consumer behaviour during COVID-19 (Wu, Deng, and Liu, 2021; Bento et al., 2020; Basch et al., 2020). According to fear appeal theories, individuals’ protective behaviours are the consequences of decision processes in which their evaluation of their conditions is part of the decision matrix (Wu, Deng, and Liu, 2021). Therefore, fear appeal theory can help us to understand the effect of the COVID-19 pandemic on anxiety and consumer behaviour (Wu, Deng, and Liu, 2021; Bento et al., 2020). Consumers show more negative emotions, such as tension, panic, anger, pessimism, and helplessness, during COVID-19 (Srivastava, 2020; Mehta, Saxena, and Purohit, 2020). It assumes that the emotional response of fear functions as a drive that mediates belief change and behaviour change. The present study therefore applies the fear theory to explain the behaviour during COVID-19 in emerging markets like India.

COVID-19 has created anxiety, and mental disturbances, leading to a change in behaviour as far as shopping is concerned. Consumers have lost their self-confidence and, therefore, their purchase behaviour is likely to be more defensive (Srivastava, 2020; Mehta, Saxena, and Purohit, 2020; Wu, Deng, and Liu, 2021). Therefore, the application of the theory of fear tries to explain the behaviour in emerging markets like India. The next section is related to the theoretical construct.

#### 3.2 | Developing a theoretical construct

The variables are identified based on the limited literature review on COVID-19 and are grouped as purchase behaviour, online usage behaviour, work-related fear, mental health during lockdown, and perception of government measures. Demographic factors such as age, gender, and occupation will moderate the use of the internet and purchase behaviour. There is no specific student variable in the present study. Increased online purchases and changed purchase behaviour could be due to mental health disturbances caused by COVID-19. Uncertainty and fear have created a disturbed mental state, leading to a swing in purchase behaviour. The usage of online purchase methods has increased too. However, the use of the internet and purchasing behaviour will be influenced by demographic factors such as age, gender, income, and occupation. Responses vary based on demographic variables as per previous studies (Bhanot and Srivastava, 2015; Srivastava, 2017). Bish and Michie (2010) in their review identified “three types of protective behaviour during a pandemic: preventive, avoidant, and management of illness behaviours for better communications and interventions in the current outbreak of swine flu and subsequent influenza pandemics”.

Response may vary based on demographic variables for this study as under COVID-19. Therefore, the study aims to find out whether responses vary based on demographic variables. COVID-19 has created fear, anxiety, and depression grouped under mental condition in this study. A significant crisis on respondents' perceptions of health and risk due to the impact of COVID-19 was reported by Xie et al. (2020). Keeping these variables, the following mathematical construct is taken for study:

### 3.3 | Purchase behaviour & online purchase mental health, + work-related fear ± demographic variables

The next section relates to the development of hypotheses. In the absence of academic research under COVID-19, the hypotheses are developed based on available data.

### 3.4 | Development of hypotheses

“Fear appeal is associated with an increase in” online purchases during COVID-19 (Clement et al., 2020). However, this study did not look into specific areas of increased purchase. Instead of reducing all expenditures, the buying habits of consumers have changed. “E-commerce orders rose 60 percent in the last two weeks in March as the coronavirus epidemic hit Finland, the e-store platform maker in Finland” (Reuters, 2020). There has been an increase of 25% in online sales due to the pandemic. Also, there is “an increase of more than 100 percent in online grocery shopping” (NDTV report, 2020).

During the COVID-19 pandemic, online grocery shopping is picking up. Customers' demographics such as age, gender, and education level and their motivation could influence internet users' behaviour (Pristiwa, Huang, and Ayuningtyas, 2017; Noorshella et al., 2019; Li et al., 2020). However, these studies are general in nature, and not related to pandemics. Previous research works of Hojin et al. (2016) and Bish and Michie (2010) investigated “epidemic outbreak impact on consumer expenditures” during the Middle East respiratory syndrome (MERS) epidemic in Korea and swine flu. These studies, however, did not cover demographics, online purchases, or subscriptions to e-learning apps. Staying at home during lockdown and fear compelled consumers to change their purchase behaviour. Keeping these in mind, the following hypothesis is suggested:

H1: There will be a significant difference in the online purchases and subscriptions of e-learning apps due to the mental fear of people of different age groups, occupations, genders, and income levels under COVID-19 (Rq1, Rq2).

“COVID-19 will sway the shopping behaviour of millions of households as the pandemic pushes shoppers to buy more goods online, stock up on food and groceries, and ensure safety and hygiene practises in their lives” (Live Mint report, 2020). Panic buying of items in bulk due to fear of non-availability is reported by studies by Chauhan and Shah (2020). “The change in consumer behaviour can be largely seen in grocery products, health-care products, medicine, entertainment services, and fruits and vegetables” (Chauhan and Shah, 2020). These studies did not study the impact of demographic variables. The purchase of these could be due to fear of COVID-19, as explained by Ruiter, Abraham, and Kok (2001). Keeping these in mind, the following hypothesis is proposed:

H2: There will be a significant difference in purchase behaviour towards essential food items, medicines, masks, sanitisers, and hygiene products for people of different age groups, occupations, genders, and income levels due to fear, as per the theory of fear (Rq3).

The next section relates to methodology.

## 4 | METHODOLOGY

### 4.1 | Research design

First, secondary data are collected using various articles and research papers from Google search between 20 March and 15 May 2020. The secondary data are collected from ProQuest, Ebsco, Google Scholar, and published data from government reports, including TV and newspaper reports, with the objective of collecting information on COVID-19 and its impact on consumers' behaviour during lockdown. For primary data collection, the target segment consists of Indian respondents of different age groups, genders, occupations, and income groups. The study was conducted to find out the online purchasing behaviour of Indian consumers during the corona lockdown for hygiene and immune-building products using an online structured questionnaire as a research tool. It also measures the mental states and attitudes towards government policy of Indian consumers due to COVID-19 lockdown during the period from 20 March 2019 to 15 May 2020. It also tries to understand their feelings about job security due to the corona lockdown.

### 4.2 | Sample design

A structured questionnaire is used to collect primary data in an online format. Respondents are selected using judgement sampling based on the availability of their e-mail address through organisations that provide data. There are organisations that make the e-mail addresses available for academic research. However, many of the listed e-mail addresses are not correct. Therefore, a general mailing filter helped to select the right e-mail addresses for the study. This becomes important because it is difficult to contact people under lockdown, as recommended by Srivastava (2020). Based on the validity of the responses to e-mails, initial listing of e-mails for the study was done based on a judgement approach. Judgement sampling is good when it is difficult to get respondents (Umasekharan, 2005), especially in situations such as COVID-19. Judgment sampling is useful for research because it represents the universe if selected appropriately (Umasekharan, 2005; Hair et al., 2010; Srivastava, 2020). In earlier studies, questionnaires with more than 30% missing answers (Mattila and Wirtz, 2001) or inconsistent answers (Bidmon, 2017) were discarded. A total of 410 questionnaires were collected, out of which 328 (80%) were found to be suitable for Mumbai and Navi Mumbai. The response is higher as Indian consumers are more responsive in the present study. They are asked to fill out the online questionnaire. Each e-mail address and telephone number is recorded from the on-line forms to avoid duplication. According to Hair et al. (2010) and Umasekharan (2005), the sample size is adequate for judgement sampling. The respondents' profile is given in Table 1.

The percentages of male and female respondents follow the distribution of the population in the last census, 2011–2012. The majority of the people taken in the sample (98.4%) are in the age group of 20–40 years. A total of 65% of Indians are under 35 years of age (Srivastava, 2020). In our study, the relatively high percentage of younger respondents was mainly due to ease of managing the online survey. The majority of the respondents (58.8%) are in private service and earn well with an income of more than Rs. 610,000 (US\$8133) per annum, which is more than the average income of Indian consumers as per the census of India 2011.

### 4.3 | Questionnaire design

Based on the validated scales from previous studies such as Srivastava (2019), Yasir et al. (2020), Clement et. al. (2020), a structured questionnaire was created. The survey items were adapted from various studies and measured on a five-point Likert scale. The questionnaire is prepared based on

**TABLE 1** Sample profile

	<i>N</i>	%
<i>Gender</i>		
Male	179	54.6
Female	149	45.4
Subtotal	328	100.0
<i>Age group (years)</i>		
20-30	174	53.0
31-40	149	45.4
41-50	5	1.5
<i>Income group (Rs)/per annum (US\$1 = Rs 75)</i>		
Up to Rs 300,000 per annum (US\$4000)	45	13.7
310,000–600,000(\$4133–8000)	92	28.0
610,000–900,000(\$8133–12000)	93	28.4
910,000–1,200,000(\$12,133–16,000)	98	29.9
Homemaker	16	4.9
Retired	8	2.4
Private service	193	58.8
Government service	18	5.5
Business	21	6.4
Total	328	100.0

variables such as purchase behaviour (item-12) from Srivastava (2019); online usage behaviour (item-6) based on the studies of Yasir et al. (2020) and Clement et. al. (2020); work-related fear (item-3) adopted from Xie, et. al. (2020) and Li, et. al. (2020); perception of Government Measures (item-10) from the study of Cao et al. (2020) mental health (item-16) based on the studies of Xie, et. al. (2020) and Li et al. (2020); business status of organisation (item-1); and time spent during lockdown besides working from home (item-2) from Srivastava et al. (2019).

Purchase behaviour is measured using variables such as the number of over-the-top (OTT) apps subscribed to, the number of e-learning apps used, and the number of health and fitness apps used. Availability of essential goods is more important than brand name; will buy essential goods even at higher price; buy more of immunity boosters; keep extra recharge for mobile; stock more of hygiene products; stock more of masks and sanitisers; stock more of essential medicines; and stock more of essential food items on scale of 1–5 (strongly disagree, disagree, neutral, agree, strongly agree).

For online usage behaviour by data were recorded on: preferring to buy online during lockdown; use of utility apps more than before; preferring to order medicines online; preferring to get groceries and other food items online; making use of online apps more than before. Online purchases have increased during lockdown and were measured on a scale of 1–5 (strongly disagree, disagree, neutral, agree, strongly agree).

Work-related fears consist of: my organisation may retrench employees; expect salary cuts; my job is a secure feeling; I do not face any problems working from home; these are measured on a scale of 1–5 (strongly disagree, disagree, neutral, agree, strongly agree).

I feel safe at home; I keep myself busy physically and mentally; I am optimistic that things will be fine in a few months; I do not feel isolated; my family gives me mental strength; I keep in touch with people virtually; I am able to maintain a good mood during lockdown; I find staying at home very difficult; I want to see my friends as soon as possible; I get bored very easily because of the lockdown;



**TABLE 2** Normality table

	Kolmogorov–Smirnov <sup>a</sup>			Shapiro–Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Work factor 1 I do not face any problems working from home	0.434	328	0.056	0.621	328	0.054
Online factor 1 My online purchases have increased during the lockdown	0.248	328	0.060	0.882	328	0.057
Purchase behaviour factor 3 I stock more of masks and sanitisers	0.269	328	0.080	0.829	328	0.065
Mental health 2 I keep myself busy physically and mentally	0.314	328	0.064	0.767	328	0.060

Abbreviations: df, degree of freedom; Sig., significance.

<sup>a</sup>Lilliefors significance correction.

I am depressed because of the pandemic; I will spend more time exercising; I take care of myself and my family's health; faith in God has increased during the pandemic; the unity of everyone will see us through this pandemic. The business status of an organisation is rated on a scale of 1–3, and time spent during free time in a lockdown is measured on variables like watching TV or social media during a lockdown on a scale of 1–3.

A pilot study involving 30 respondents through a telephonic interview was conducted to understand the difficulties in collecting the data in the last week of March 2020. Once the survey was analysed, the face and content validity of the instrument was tested. A minor change in the wording was made, as suggested by the experts, to improve the understanding. This was done during the pilot study by the researchers and their team as per the guidelines given by Hair et.al (2010). Changes such as adding mobile numbers to minimise duplication and the inclusion of more questions (N-4) related to mental health were the key new additional inputs from the pilot study. Reliability is done using the Cronbach alpha test. Cronbach alpha values are for online usage behaviour (0.707); purchase behaviour (0.721); work-related fear (0.720); perception of government measures (0.734); and mental health during lockdown (0.71). As Cronbach's alpha is greater than 0.7, it indicates an acceptable level of internal consistency (Nunnally, 1978; Hair et al., 2010). The test of normality was done by taking the work factor, the online factor, the purchase behaviour factor, and the mental health factor. As the significance value > 0.05 for each factor, the data follow a normal distribution, as presented in Table 2.

#### 4.3.1 | Data design

Two statistical methods: *t*-test and analysis of variance (ANOVA) were used for data analysis. Single-sample *t*-test is used to compare a sample proportion with the population proportion, and this has been done for each statement of parameters such as impact on business, work related problems, online purchase behaviour, and purchase behaviour of products. When large sample is taken, it is assumed to be normally distributed. There is little variation between *t*-test and *z*-test (Indrayan, 2021), as the values that the *t*-test's critical values converge to are the critical values for the *z*-test (King, & Eckersley, 2019).

Independent-samples *t*-test was used to compare the average values for two samples and to understand the responses of people to purchase behaviour of essential products, purchase behaviour towards masks and sanitisers, and subscription of e-learning apps with respect to gender. ANOVA was used to compare the average values of more than two samples and to understand the responses of people to



the purchase behaviour of essential products, the purchase behaviour of masks and sanitisers, and the subscription of e-learning apps with respect to age and occupation.

## 5 | RESULTS AND DISCUSSION

COVID-19 has created mental disorders across the globe (Srivastava, 2020). Social media have become an information source and a platform for expressing opinions and feelings (Srivastava, 2020). Impulsive consumer behaviour is observed too during the crisis (Wu and Huan, 2010). Nowadays, from social media, the “public can obtain information and express their opinions and feelings”. Their purchase behaviour will also be more irrational (Song et al., 2020). Analysis is divided into descriptive and hypothesis testing. Descriptive research is defined as a research method that describes the characteristics of the phenomenon under consideration (Uma Sekharan, 2005; Hair et al., 2010; Srivastava, 2020). This methodology focuses more on the “what” than the “why” of the research subject (Hair et al., 2010).

### 5.1 | Descriptive testing

In the first part of the study, the responses are analysed based on the impact on business, work-related aspects, usage of an online method for purchase, and purchase behaviour for products during lockdown. Is the behaviour of consumers different during COVID-19 lockdown conditions? Single-sample *t*-test has been done for each statement, which is presented in Table 3.

Consumers buy more, especially through online purchases, as per *t*-test that is significant ( $p = 0.045 < 0.05$  at 5% level of significance and one-tailed test); use online apps more than before as per analysis ( $p = 0.034 < 0.05$  at 5% level of significance and one-tailed test); get grocery and other food items online as per *t*-test showing significant changes ( $p = 0.041 < 0.05$  at 5% level of significance and one-tailed test); do more banking transactions online as per analysis ( $p = 0.048 < 0.05$  at 5% level of significance and one-tailed test).

People get groceries and other food items online and conduct more banking transactions online. Rigby (2020) reported that the UK’s shoppers do change their buying habits during the COVID-19 pandemic. However, this study did not report the usage of online purchase behaviour in detail. Similarly, consumers tend to stock more essential food items; buy more essential medicines, masks, sanitisers, and hygiene products; keep extra recharges for mobile phones; buy more immunity boosters; and have more subscriptions to OTT. This is possible due to fear and insecurity during the corona period (Srivastava, 2020). Their purchase behaviour will also be more irrational, as also reported by the study of Song, Jin, Gao and Zhao (2020). Bansal () also reported changes in the consumer behaviour patterns of Indian consumers due to COVID-19.

The present paper gives an insight into the categories of segments commonly used during the crisis under COVID-19 which were missing in earlier studies. As per the analysis, the urge to stock more has diluted brand loyalty, and consumers are willing to purchase essential goods because they feel that having them is more important than the brand name. During the COVID-19 era, consumers’ purchasing habits across Asia have shown a change (Srivastava, 2020). Respondents are uncertain about their jobs, which creates anxiety. Negative emotions manifested as anxiety, depression, low sensitivity, and low satisfaction are reported by the study of Li et al. (2020) during COVID-19. In the past, epidemics have created anxiety among consumers (Lewis, et. al., 2008). Consumers reported their confidence in the Indian corporations as per our study and are comfortable working from home due to COVID-19. Consumers spend more time exercising and feel more responsible for taking care of themselves and their family’s health. But they are not comfortable if the lockdown is extended. Due to a paucity of similar studies, a comparison is not available with other studies in emerging markets like India. The second part of the analysis is hypothesis testing.

**TABLE 3** Impact on business, work-related aspects, usage of an online method for purchase, and purchase behaviour for products during lockdown

Parameters	Results ( <i>N</i> = 328)	Comments
<b>1. Impact on business</b>	90.9% of people feel that business will decrease as compared with last year	Single-sample <i>t</i> -test is used here  $p = 0.027 < 0.05$ , so we reject $H_0$ , and hence the percentage of people who feel that business will decrease is significant
<b>2. Work-related aspects</b>		
Do not face any problems working from home	Agree/strongly agree—89%	Single-sample <i>t</i> -test is used here  $p = 0.031 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who do not face any problems working from home is significant
Hope my job is secure	Agree/strongly agree —63%	Single-sample <i>t</i> -test is used here  $p = 0.048 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who feel that their job is secure is significant
May have to go through salary cuts	Agree/strongly agree—30%	Single-sample <i>t</i> -test is used here  $p = 0.065 > 0.05$ , so we accept $H_0$ and conclude that the percentage of people who feel that they may have to go through salary cuts is significantly less
Organisation may retrench employees	Agree/strongly agree—27%	Single-sample <i>t</i> -test is used here  $p = 0.087 > 0.05$ , so we accept $H_0$ and conclude that the percentage of people who feel that the organisation may retrench employees is significantly less
<b>3. Online purchase behaviour</b>		
Online purchases have increased	Agree/strongly agree—60%	Single-sample <i>t</i> -test is used here  $p = 0.0036 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who feel that online purchases have increased is significant
Use of online apps more than before	Agree/strongly agree—68%	Single-sample <i>t</i> -test is used here  $p = 0.039 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who feel that use of online apps is more than before is significant
Prefer to get grocery and other food items online	Agree/strongly agree—63%	Single-sample <i>t</i> -test is used here  $p = 0.047 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who prefer to get grocery and other food items online is significant
Prefer to order medicines online	Agree/strongly agree—35%	Single-sample <i>t</i> -test is used here  $p = 0.075 > 0.05$ , so we accept $H_0$ and conclude that the percentage of people who prefer to buy medicines online is significantly less
Make use of utility apps more than before	Agree/strongly agree—54%	Single-sample <i>t</i> -test is used here

(Continues)

TABLE 3 (Continued)

Parameters	Results ( $N = 328$ )	Comments
		$p = 0.057 > 0.05$ , so we accept $H_0$ and conclude that the percentage of people who make use of utility apps more than <i>before</i> is not significant
Do more banking transactions online now	Agree/strongly agree—66.5	Single-sample $t$ -test is used here
		$p = 0.038 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who do more banking transactions online now is significant
<b>4. Purchase behaviour for products</b>		
Stock more of essential food items	Agree/strongly agree—76%	Single-sample $t$ -test is used here
		$p = 0.031 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who stock more of essential food items is significant
Stock more of essential medicines	Agree/strongly agree—84%	Single-sample $t$ -test is used here
		$p = 0.034 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who stock more of essential medicines is significant
Stock more of masks and sanitisers	Agree/strongly agree—78.6%	Single-sample $t$ -test is used here
		$p = 0.041 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who stock more of masks and sanitisers is significant
Stock more of hygiene products	Agree/strongly agree—72.5%	Single-sample $t$ -test is used here
		$p = 0.031 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who stock more of hygiene products is significant
Keep extra recharge for mobile phones	Agree/strongly agree—90%	Single-sample $t$ -test is used here
		$p = 0.027 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who keep extra recharge for mobile phones is significant
Buy more of immunity boosters	Agree/strongly agree—83%	Single-sample $t$ -test is used here
		$p = 0.032 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who buy more of immunity boosters is significant
Will buy essential goods even at a higher price	Agree/strongly agree—50.3%	Single-sample $t$ -test is used here
		$p = 0.14 > 0.05$ , so we accept $H_0$ and conclude that the percentage of people who will buy essential goods even at a higher price is not significant
Availability of essential goods is more important than brand name	Agree/strongly agree—68%	Single-sample $t$ -test is used here

(Continues)

TABLE 3 (Continued)

Parameters	Results ( $N = 328$ )	Comments
		$p = 0.037 < 0.05$ , so we reject $H_0$ and conclude that the percentage of people who feel that the availability of essential goods is more important than brand name is significant
Subscribe to more OTT apps	Agree/strongly agree—22%	Single-sample $t$ -test is used here
		$p = 0.42 > 0.05$ , so we accept $H_0$ and conclude that the percentage of people who subscribe to more OTT apps is not significant
Use more of e-learning apps	Agree/strongly agree—53.1%	Single-sample $t$ -test is used here
		$p = 0.46 > 0.05$ , so we accept $H_0$ and conclude that the percentage of people who use more of e-learning apps is not significantly more than 50%
Use more of health and fitness apps	Agree/strongly agree—51%	Single-sample $t$ -test is used here
		$p = 0.54 > 0.05$ , so we accept $H_0$ and conclude that the percentage of people who use more of health and fitness apps is not significant

Abbreviation: OTT, over-the-top.

## 5.2 | Hypothesis testing

A shift in routine activities from offline to online is noticed by respondents. However, demographic variables will have a moderating effect on online purchase adaptation. Keeping this in mind, the first hypothesis is analysed.

H1: There will be a significant difference in the online purchases and subscriptions of e-learning apps due to the mental fear of people of different age groups, occupations, genders, and income levels under COVID-19.

The analysis of the frequency of online purchase and subscription to e-learning apps among different age groups, incomes, genders, and occupations is given in Table 4. Table 4a is for gender, for which an independent-samples  $t$ -test is used, as there are two categories. Table 4b is for age, for which Tukey honestly significant difference (HSD) and ANOVA are shown, as there are more than two categories.

There is a significant difference in online purchases for respondents of different age groups ( $p = 0.015 < 0.05$ ) in the present study. Online purchases have increased more for respondents in the age group of 30 to 50 years as compared with respondents in the other age groups. Similarly, as the  $p$  value is  $0.056 > 0.05$ , it is concluded that there is no difference in online purchases for respondents of different occupations. Male and female respondents make different online purchases ( $p$  value is  $0.023 < 0.05$ ). It is seen that online purchases have increased more for female respondents as compared with male respondents during lockdown.

The analysis of subscription of e-learning apps among genders revealed that there is no significant difference in subscription of e-learning apps for male and female respondents ( $p = 0.731 > 0.05$ ). However, there is a significant difference in the subscription of e-learning apps for respondents of different age groups ( $p = 0.035 < 0.05$ ). Respondents in the age group of 40–50 years subscribe more to e-learning apps, mainly for their children. A significant difference in subscription of e-learning apps for respondents of different occupations ( $p = 0.000 < 0.05$ ) is reported in the present study. Students

**TABLE 4** Online purchases and subscription of e-learning apps for people of different gender, age groups, and occupations**(a) Independent samples test—online purchase: gender**

		Levene's test for equality of variances		<i>t</i> -test for equality of means					95% confidence interval of the difference	
		<i>F</i>	Sig.	<i>T</i>	df	Sig. (two- tailed)	Mean diff- erence	Std. error diff- erence	Lower	Upper
Online factor 1	Equal variances assumed	.659	.417	-2.284	326	.023	-.262	.115	-.488	-.036
My online purchases have increased during lockdown	Equal variances not assumed			-2.282	313.904	.023	-.262	.115	-.488	-.036

**(b) Online purchases with respect to age****Tukey's HSD**

Age	<i>N</i>	Subset for alpha = 0.05 1
20–30 years	174	3.47
30–40 years	149	3.80
40–50 years	5	3.80
Sig.		.665

Means for groups in homogeneous subsets are displayed

a. Uses harmonic mean sample size = 14.120

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed

**(c) Online purchases with respect to occupation****ANOVA****Online factor 1 My online purchases have increased during lockdown**

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	11.648	5	2.330	2.184	.056
Within Groups	343.474	322	1.067		
Total	355.122	327			

(Continues)

TABLE 4 (Continued)

## (d) Subscription of e-learning apps with respect to gender

Independent samples *t*-test

		Levene's test for equality of variances		t-test for equality of means					95% confidence interval of the difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean difference	Std. error difference	Lower	Upper
Purchase behaviour factor 10 I use more of e-learning apps	Equal variances assumed	5.616	.018	.344	326	.731	.043	.126	-.205	.291
	Equal variances not assumed			.340	297.543	.734	.043	.127	-.208	.294

## (e) Subscription of e-learning apps with respect to age

## Purchase behaviour factor 10 I use more of e-learning apps

## Tukey B

Age	N	Subset for alpha = 0.05	
		1	2
30-40 years	149	3.27	
20-30 years	174	3.29	
40-50 years	5		4.60

Means for groups in homogeneous subsets are displayed.

a. Uses harmonic mean sample size = 14.120.

The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

## ANOVA

## Purchase behaviour factor 10 I use more of e-learning apps

	Sum of squares	df	Mean square	F	Sig.
Between groups	8.626	2	4.313	3.401	.035
Within groups	412.094	325	1.268		
Total	420.720	327			

(Continues)

TABLE 4 (Continued)

## (f) Subscription of e-learning apps with respect to occupation

## Purchase behaviour factor 10 I use more of e-learning apps

## Tukey B

Occupation	N	Subset for alpha = 0.05			
		1	2	3	4
Homemaker	16	2.13			
Retired	8	2.50	2.50		
Government service	18		3.17	3.17	
Private service	193		3.23	3.23	
Student	72			3.61	3.61
Business	21				4.14

Means for groups in homogeneous subsets are displayed.

a. Uses harmonic mean sample size = 19.371.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

## ANOVA

## Purchase behaviour factor 10 I use more of e-learning apps

	Sum of squares	df	Mean square	F	Sig.
Between groups	50.279	5	10.056	8.741	.000
Within groups	370.440	322	1.150		
Total	420.720	327			

Abbreviations: ANOVA, analysis of variance; df, degree of freedom; HSD, honestly significant difference; Sig., significance.

and business people subscribe more to e-learning apps as compared with people of other occupations. This validates H1. A shift in daily activities from offline to online is noticeable. According to a report in the United States, Americans will “shop online more as a result of COVID-19” (Pruett, 2020).

The lockdown during COVID-19 has increased fear and uncertainty. This may lead to the purchase of essential items and hygiene products more than necessary. The analysis is related to hypothesis 2

**H2:** There will be a significant difference in purchase behaviour towards essential food items, medicines, masks, sanitisers, and hygiene products for people of different age groups, occupations, genders, and income levels due to fear, as per the theory of fear.

The analysis is given in Table 5. It shows purchase behaviour during COVID-19.

As the significance value is  $0.017 < 0.05$ ,  $H_0$  is rejected, and it is concluded that there is a significant difference in purchase behaviour towards essential food items for male and female respondents. Stocking more essential food items is seen more for male respondents as compared with female respondents (Table 5i).

As the significance value is  $0.04 < 0.05$  (Table 5ii), it is concluded that there is a significant difference in purchase behaviour towards essential food items for people of different age groups. People in the age group of 40–50 years show a higher tendency to stock more essential food items. There is no significant difference in purchase behaviour towards essential food items for people of different age groups ( $p = 0.601 > 0.05$ ; Table 5iii). At the same time, there is no significant difference in purchase behaviour towards essential food items for people of different occupations ( $p = 0.108 > 0.05$ ; Table 5iv). There is no significant difference in purchase behaviour towards masks and sanitisers for male and female respondents either (Table 5v). For people of different age groups, there is a significant difference



TABLE 5 (i) Purchase behaviour during lockdown COVID-19

Group statistics										
	Gender	N	Mean	Std. deviation	Std. error mean					
Purchase behaviour factor 1 I stock more of essential food items	Male	179	4.09	.795	.059					
	Female	149	3.87	.890	.073					
Independent-samples <i>t</i> -test										
		Levene's test for equality of variances		<i>t</i> -test for equality of means						
		<i>F</i>	Sig.	<i>t</i>	df	Sig. (two-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
Purchase behaviour factor 1 I stock more of essential food items	Equal variances assumed	3.637	.057	2.401	326	.017	.224	.093	.040	.407
	Equal variances not assumed			2.377	299.882	.018	.224	.094	.038	.409
(ii) Purchase behaviour towards essential food items with respect to age										
ANOVA										
Purchase behaviour factor 1 I stock more of essential food items										
	Sum of squares	df	Mean square	<i>F</i>	Sig.					
Between groups	4.582	2	2.291	3.246	.040					
Within groups	229.369	325	.706							
Total	233.951	327								
Purchase behaviour factor 1 I stock more of essential food items										
Tukey HSD										
Age	N	Subset for alpha = 0.05								
30–40 years	149	1								
20–30 years	174	1								
40–50 years	5	1								
Sig.		.528								

Means for groups in homogeneous subsets are displayed

a. Uses harmonic mean sample size = 14.120

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed

(Continues)

TABLE 5 (Continued)

**(iii) Purchase behaviour towards essential food items with respect to income****ANOVA****Purchase behaviour factor 1 I stock more of essential food items**

	Sum of squares	df	Mean square	F	Sig.
Between groups	1.339	3	.446	.622	.601
Within groups	232.612	324	.718		
Total	233.951	327			

**(iv) Purchase behaviour towards essential food items with respect to occupation****ANOVA****Purchase behaviour factor 1 I stock more of essential food items**

	Sum of squares	df	Mean square	F	Sig.
Between groups	6.447	5	1.289	1.825	.108
Within groups	227.504	322	.707		
Total	233.951	327			

**(v) Purchase behaviour towards masks and sanitisers with respect to gender****Independent-samples t-test**

		Levene's test for equality of variances		t-test for equality of means						
		F	Sig.	t	df	Sig. (two-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
									Lower	Upper
Purchase behaviour factor 3 I stock more of masks and sanitisers	Equal variances assumed	.332	.565	.000	326	1.000	.000	.083	-.163	.163
	Equal variances not assumed			.000	321.630	1.000	.000	.082	-.162	.162

**(vi) Purchase behaviour towards masks and sanitisers with respect to age****ANOVA****Purchase behaviour factor 3 I stock more of masks and sanitisers**

	Sum of squares	df	Mean square	F	Sig.
Between groups	3.582	2	1.791	3.251	.040
Within groups	179.049	325	.551		
Total	182.631	327			

(Continues)

TABLE 5 (Continued)

**Purchase behaviour factor 3 I stock more of masks and sanitisers****Tukey B**

Age	N	Subset for alpha = 0.05	
		1	2
40-50 years	5	3.20	
20-30 years	174		4.03
30-40 years	149		4.06

Means for groups in homogeneous subsets are displayed

a. Uses harmonic mean sample size = 14.120

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed

**(vii) Purchase behaviour towards masks and sanitisers with respect to income****ANOVA****Purchase behaviour factor 3 I stock more of masks and sanitisers**

	Sum of squares	df	Mean square	F	Sig.
Between groups	2.403	3	.801	1.440	.231
Within groups	180.228	324	.556		
Total	182.631	327			

Means for groups in homogeneous subsets are displayed

a. Uses harmonic mean sample size = 14.120

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed

**(viii) Purchase behaviour towards masks and sanitisers with respect to occupation****ANOVA****Purchase behaviour factor 3 I stock more of masks and sanitisers**

	Sum of squares	df	Mean square	F	Sig.
Between groups	3.378	5	.676	1.214	.302
Within groups	179.253	322	.557		
Total	182.631	327			

Abbreviations: ANOVA, analysis of variance; df, degree of freedom; HSD, honestly significant difference; Sig., significance.

in purchase behaviour towards masks and sanitisers. People in the age group of 30–40 years stock more masks and sanitisers as compared with other age groups ( $p = 0.04 < 0.05$ ; Table 5vi). However, no significant difference in purchase behaviour towards masks and sanitisers for people of different income groups and people of different occupations was observed ( $p = 0.231 > 0.05$ ; Table 5vii;  $p = 0.302 > 0.05$ ; Table 5viii). Thus, confirming H2.

There is a rapid rise in the purchase of sales of hand sanitiser, medical masks, and household maintenance masks, as per NDTV TV reports (2020). There is a significant difference in purchase behaviour towards masks and sanitisers for people of a different age groups, but there is no significant difference in purchase behaviour towards masks and sanitisers for male and female respondents. People in the age group of 30–40 years stock more masks and sanitisers as compared with other age groups. People in the higher-income groups stock more hygiene products as compared with people in the lower-income groups. Students and retired people stock more hygiene products as compared with people of other occupations. As per a study by Pruett (2020), 51% of Americans say they will buy more groceries online. This could be attributed to fear and a feeling of uncertainty, as explained by Mcdaniel and

Zeithaml (1984) and Clement et. al. (2020). Demographic variables and how they will react to fear due to COVID-19 are not studied by these researchers. Mental fitness is important to fight the COVID-19 situation. Lockdown has affected mental condition. The next section contains the discussion and validation of the model.

### 5.3 | Discussion and validation of the mathematical model

Business India (2020) reported that depression would affect millions in India due to lockdown conditions. Li et. al. (2020) also reported depression during COVID-19. However, these studies did not go into details on demographic variables. Thus, the present study adds to the existing knowledge of the impact of the mental state of consumers during COVID-19. However, our study found that “stocking more essential medicines” is significantly influenced by pandemic depression and feelings of discomfort with the extension of the pandemic lockdown (ANOVA,  $p = 0.001 < 0.05$ ). According to the theory of fear by Ruiter et. al. (2001), fear appeals divert behaviour through the threat of danger or harm.

COVID-19 has instilled a sense of fear among consumers and created uncertainty in their minds. This has led to depression and emotional tension. Purchasing more essential medicines during COVID-19 and the drive to purchase more are observed in the present study. This is due to fear created by COVID-19 as per the theory of fear (Ruiter et al., 2001). However, fear also created a sense of internal pressure to safeguard against the fear of COVID-19. Internal pressure triggers the action, which may be an overreaction under such circumstances. Thus, the theory of internal pressure, suggested in the present study, influences the purchase behaviour, and the response may vary based on demographic variables and the mental status of the consumers aggravated by fear, as per the theory of fear. Therefore, both offline and online purchase behaviour go up as per our study, which shows disturbance in mental health and work fear, but the response may differ due to demographic variables. Thus, the validation of the mathematical model is as follows:

### 5.4 | Purchase behaviour & online purchase mental health, + work-related fear ± demographic variables

Purchase behaviour (varying across occupations for hygiene products; varying across age groups for masks and sanitisers; varying across income groups for essential medicines; varying across gender and age for essential food items,  $p < 0.05$ ) is a function of mental health (feeling depressed varies across income groups; not being comfortable with the extension of lockdown varies across income and occupations,  $p < 0.05$ ). Faith in God has increased. Work-related fear (job is secure: Do not face any problems working from home; have to go through salary cuts,  $p < 0.05$ ) validates the above model. Therefore, purchase behaviour for hygiene, essential products, masks, and sanitisers has gone up across all ages, income, gender, and occupations during COVID-19. Similarly, online purchases too have increased under lockdown conditions among different age groups, genders, and income brackets, but not for occupations. However, there is an upward trend in the purchase of e-learning apps across all age groups, income levels, and occupations. Mental health is normal, except for those in a different income group due to uncertainty. This has created a panic, leading to more purchases in this group. Extension of lockdown is not liked by students and business people. They feel more insecure. Even then, work fear among the respondents is not present, but fear of a salary cut is.

## 6 | CONCLUSION

There is a significant difference in online purchases for people of different age groups. Online purchases have increased more for people in the age group of 30 to 50 years as compared with people

in the other age groups. Online purchases have increased more for respondents in the middle-income group, that is, up to Rs. 1,000,000 per annum, as compared with higher-income groups. It is seen that online purchases have increased more for female respondents as compared with males.

Respondents in the age group of 40–50 years show a higher tendency to stock more essential food items. Stocking more essential food items is seen more for male respondents as compared with female respondents. Respondents in the age group of 30–40 years stock more masks and sanitisers as compared with other age groups. Respondents in the higher-income groups stock more hygiene products as compared with respondents in the lower-income groups. Thus, the results help us explore the features of purchasing behaviour. Students and retired people stock more hygiene products as compared with people of other occupations. Online purchases have increased more for people in the age group of 30–50 years as compared with people in the other age groups.

The majority of respondents feel that the business of their organisation has decreased, but their job is secure. Thirty per cent of the respondents feel that they may have to take salary cuts. Twenty-seven per cent of the respondents feel that their organisation may retrench employees and About 60% say that their online purchases increased during the lockdown. The majority of the respondents stock more of essential food items, essential medicines, hygiene products, and immunity boosters. They keep a sufficient supply of mobile phone recharge and subscribe to e-learning apps. A total of 50.3% of the respondents will buy essential goods even at a higher price and without bothering about the brand. Sixty-five per cent of respondents feel that measures taken by the Reserve Bank of India (RBI) and the finance minister are beneficial; 72.9% feel that their time spent on social media has increased; 63.4% are hopeful that things will be fine in a few months; 22.3% felt depressed because of the pandemic; and 55% said they were not comfortable if lockdown was extended. A good mood during lockdown was observed in 72% of the respondents. The purchase behaviour during COVID-19 is explained through the theory of fear in the present paper in emerging markets like India.

This paper will definitely have a lot of impact on understanding this topic and motivate future studies. The present study has contributed to the changing consumer behaviour under COVID-19 by doing specific research. It gives direction to marketing due to the changing acceptance of online purchase behaviour. The present paper gives an insight into the categories of segments commonly used during crises under COVID-19 in emerging markets like India. A study on the perception of government initiatives gives an insight into their implementation. It also gave useful information on the feelings of consumers towards job security under COVID-19, which will help the policy-makers. The theory of fear (Ruiter et al., 2001) has been applied to explain the purchase behaviour during COVID-19 in emerging markets like India.

## 7 | LIMITATION AND SCOPE OF FURTHER STUDY

The limited availability of research on COVID-19 and consumer purchase behaviour has limited the critical analysis of key variables. Due to lockdown, the present study relied more on judgement sampling for the collection of data. Further research can be extended to areas like people from other countries. It is more of a descriptive and inferential study than theory-based research.

## 8 | MANAGERIAL IMPLICATIONS

As COVID-19 becomes a global pandemic, the consumer pattern of customers' needs to be understood so that companies can learn for growth even in times when this pandemic has drastically affected people's lives. A manager has to understand how people will respond to COVID-19 and act accordingly. The present study gives managers an insight into consumer purchase behaviour during the COVID-19 period. Managers should focus on e-commerce with improved logistics to perform better in the post-COVID-19 environment. Managers should relook at the brand mix and try to focus on the categories

that are acceptable in the current environment. The organisation has to relook at work from home facilities as many activities can be performed from home, thus saving space and money.

## CONFLICT OF INTEREST

There is no conflict of interest to declare.

## PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1111/issj.12329>

## REFERENCES

- Bento, A.I., T. Nguyen, C. Wing, F. Lozano-Rojas, Y.Y. Ahn, and K. Simon. 2020. "Evidence from internet search data shows information-seeking responses to news of local COVID-19 cases." *Proceedings of the National Academy of Sciences of the United States of America* 117(21): 11220–222. <https://doi.org/10.1073/pnas.2005335117>.
- Basch, C.H., J. Mohlman, G.C. Hillyer, and P. Garcia. 2020. "Public health communication in time of crisis: Readability of on-line COVID-19 information." *Disaster Medicine and Public Health Preparedness* 14(5): 635–37. <https://doi.org/10.1017/dmp.2020.151>.
- Bhanot, S., and R.K. Srivastava. 2015. "Influence of functional value on purchase of luxury brands with respect to demographic variables." *Asian Academic Research Journal of Multidisciplinary* 1(30): 236–60.
- Bidmon, S. 2017. "How does attachment style influence the brand attachment–brand trust and brand loyalty chain in adolescents?." *International Journal of Advertising* 36(1): 164–89.
- Bish, A., and S. Michie. 2010. "Demographic and attitudinal determinants of protective behaviours during a pandemic: A review." *British Journal of Health Psychology* December 3(1): 32–41.
- Butu, A., I.S. Brumă, L. Tanasă, S. Rodino, D.V. Codrin, S. Doboş, and M. Butu. 2020. "The impact of COVID-19 crisis upon the consumer buying behaviour of fresh vegetables directly from local producers. case study: The quarantined area of Suceava county, Romania." *International Journal of Environmental Research and Public Health* 17(15): 54–85. <https://doi.org/10.3390/ijerph17155485>.
- Cao, J., X. Chen, X. Zhang, Y. Gao, X. Zhang, and S. Kumar. 2020. Overview of remanufacturing industry in china: Government policies, enterprise, and public awareness." *Journal of Cleaner Production*. 242, 118450
- Census India (2011. Report on Indian Population: <https://censusindia.gov.in/2011-common/censusdata2011.html> access on 25th April, 2020
- Chauhan, V., and H. Shah. 2020. "An Empirical Analysis into Sentiments, Media Consumption Habits, and Consumer Behaviour during the Coronavirus (COVID-19) Outbreak." *Purakala (UGC Care Journal)* 31(20): 21–27: ISSN: 0971–2143
- Clement, P.A., F. Jiaming, N.B. Kulbo, and L. Liangqiang. 2020. "COVID-19: fear appeal favouring purchase behaviour towards personal protective equipment." *The Service Industries Journal* 40:7-8: 471–90, <https://doi.org/10.1080/02642069.2020.1751823>.
- Di Crosta, A., I. Ceccato, and D. Marchetti, et al. (2021). "Psychological factors and consumer behaviour during the COVID-19 pandemic." *PLOS ONE* 16(8): e0256095. <https://doi.org/10.1371/journal.pone.0256095>.
- De Hoog, N., W. Stroebe, and J. B. F. De Wit. 2007. "The impact of vulnerability to and severity of a health risk on processing and acceptance of fear-arousing communications: A meta-analysis. *Review of General Psychology* 11, 258.
- Eger, L., L. Komárková, D. Egerová, and M. Mičík. 2021. "The effect of COVID-19 on consumer shopping behaviour: Generational cohort perspective." *Journal of Retailing and Consumer Services* 61, <https://doi.org/10.1016/j.jretconser.2021.102542>.
- E.T. (Economic Times) Report (April, 8<sup>th</sup>, 2020. <https://m.economictimes.com/news/economy/indicators/moodys-slashes-india-gdp-growth-in-2020-to-2-5/articleshow/74840446.cms> access on 25th April, 2020.
- Floyd, D.L., S. Prentice-Dunn, and R.W. Rogers. 2000. A meta-analysis of research on protection motivation theory." *Journal of Applied Social Psychology* 30(2): 407–29. <https://doi.org/10.1111/j.1559-1816.2000.tb02323.x>.
- Goswami, S., and V. Chouhan. 2021. Impact of change in consumer behaviour and need prioritisation on retail industry in Rajasthan during COVID-19 pandemic. Materials Today: *Proceedings. Artigo em Inglês | ScienceDirect | ID: covidwho-1046223*
- Hair, J.F., W.C. Black, B.J. Babin, and R. E. Anderson. 2010. "Multivariate data analysis" (7th ed.). Englewood Cliffs: Prentice Hall
- Hojin, J., M. Park, K. Hong, and E. Hyun. 2016, "The Impact of an Epidemic Outbreak on Consumer Expenditures: An Empirical Assessment for MERS Korea." *Sustainability* 8: 454–61.
- Indrayan, A. 2021. *Basic methods of Medical Research*. 4th Edition AITBS Publishers, Delhi.
- King, A.P., and R.J. Eckersley. 2019. *Statistics for Biomedical Engineers and Scientists*, 1st edition, Elsevier Publication, USA
- Lewis, M.A., M.C. Hove, U. Whiteside, C.M. Lee, B.S. Kirkeby, L. Oster-Aaland, C. Neighbors, and M.E Larimer. 2008. "Fitting in and feeling fine: Conformity and coping motives as mediators of the relationship between social anxiety and problematic drinking." *Psychology of Addictive Behaviors*. 22: 58–67.

- Li, S., Y. Wang, J. Xue, N. Zhao, and T. Zhu. 2020. "The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users." *International Journal of Environmental Research and Public Health* 17(6):20–32. <https://doi.org/10.3390/ijerph17062032>.
- Live Mint Report (2020: Corona virus impact;24th April,2020
- Manabe, T., T.T. Hanh, D.M. Lam, D.T.H. Van, P.T.P. Thuy, D.T.T. Huyen, et al. (2012. "Knowledge, attitudes, practices and emotional reactions among residents of avian influenza (H5N1) hit communities in Vietnam." *PLoS One* 7(10):e47560. <https://doi.org/10.1371/journal.pone.0047560>.
- Mason, A., J. Narcum, and K. Mason. 2020. "Changes in consumer decision-making resulting from the COVID-19 pandemic." *Journal of Customer Behaviour* 19(4): 299–321.
- Mathew, Pramod. 2020. India may escape a recession, but coronavirus will slow down growth further, Quarts India, p 1–9 <https://qz.com/india/as seen on 30th March>
- Mattila, A.S., and J. Wirtz. 2001. "Congruency of scent and music as a driver of in-store evaluations and behaviour." *Journal of Retailing* 77(2): 273–89.
- Medaniel, S.W., and V. A. Zeithaml. 1984. "The effect of fear on purchase intentions." *Psychology and Marketing* 1(3–4): 73–82. <https://doi.org/10.1002/mar.4220010308>.
- Mehta, S., T. Saxena, and N. Purohit. 2020. "The New Consumer Behaviour Paradigm amid COVID-19: Permanent or Transient?." *Journal of Health Management* 22(2): 291–301. <https://doi.org/10.1177/0972063420940834>.
- Mohanty, P. 2020. Indian economy, *Business Today* March 27, pp. 6
- NDTV TV reports (March, 30th 2020: Impact of Corona Virus
- Naeem, M. 2020. "The role of social media to generate social proof as engaged society for stockpiling behaviour of customers during Covid-19 pandemic. *Qualitative Market Research: An International Journal* ahead-of-print(ahead-of-print), -. <https://doi.org/10.1108/QMR-04-2020-0050>.
- Nelson (2020. Impact of COVID-19 on Consumer Behavior – Nielsen report, <https://www.nielsen.com/apac/en/insights/report/2020/the-impact-of-covid-19-on-media-consumption-across-north-asia/>.
- Noorshella, C.N., A.A. Mamun, H.B. Nurul Hasliana, and M.B. Mohd Nazri. 2019. "Effect of consumer demographics and risk factors on online purchase behaviour in Malaysia." *Societies* 9(1): 31–45:doi:<https://doi.org/10.3390/soc9010010>.
- Nunnally, J. 1978. *Psychometric theory*. New York, NY: McGraw-Hill
- Pantano, E., G. Pizzi, D. Scarpi, and Ch. Dennis. 2020. "Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak." *Journal of Business Research* 116, 209–213. <https://doi.org/10.1016/j.jbusres.2020.05.036>.
- Pristiwa, N., W.T. Huang, and A. Ayuningtyas. 2017, "D. The effect of internet user behaviour on effective marketing via online group buying in Taiwan." *Proceedings of AICS - Social Sciences* 7, 326–333.
- Pruett, M. 2020, '5 Ways the Coronavirus is Affecting Consumer Behaviour', Criteo Coronavirus Survey, US, March p: 1–65.
- Qian, M., D. Ye, and W. Dong. 2003. "Behaviour, cognition and emotion of the public in Beijing towards SARS." *Chinese Mental Health Journal* 17(8): 515–520.
- Reuters (2020. Corona Virus report,3rd April, p. 2
- Rigby, J., S. Forman, L. Foster, E. Kazemi, and S. Clancey. 2020. *Promising District Leadership Practices for Transformative Change in the Context of COVID-19*. Washington: University of Washington.
- Ruiter, R.A., C. Abraham and G. Kok. 2001. "Scary warnings and rational precautions: A review of the psychology of fear appeals." *Psychology & Health* 16 (6): 613–630. <https://doi.org/10.1080/08870440108405863>.
- Ruiter, R.A.C., L.T.E. Kessels, G.-J.Y. Peters, and G. Kok. 2014. "Sixty years of fear appeal research: Current state of the evidence. *International Journal of Psychology*." 49(2): 63–70. <https://doi.org/10.1002/ijop.12042>.
- Sheth, J. 2020. "Impact of Covid-19 on consumer behaviour: Will the old habits return or die? *Journal of Business Research* 117: 280–283, <https://doi.org/10.1016/j.jbusres.2020.05.059>.
- Srivastava, R.K. 2017. "How Differing Demographic Factors Impact upon Customer Loyalty Towards National or International Fast-Food Chains: A Comparative Study in Emerging Markets. *Journal of Food Products Marketing* 23(8): 901–925.
- Srivastava, R., M. Paul, and H Joshi. 2019. "How Brand Awareness of Fast Food Restaurants Differs From Country, and Its Effect on the Purchasing Decisions of the Consumers." *Sydenham Management Review the International Research Journal* 4(2): 25–49. ISSN: 2249-9490
- Srivastava, R.K. 2020. "Impact of Corona virus Covid19 and application of astrological prediction on social marketing approach in building brands in India and USA, *Research Journal of Social Science & Management-RJSSM* 10(5): 01–21.
- Song, W., X. Jin, J. Gao, and T. Zhao. 2020. "Will buying follow others ease their threat of death? an analysis of consumer data during the period of COVID-19 in china." *International Journal of Environmental Research and Public Health* 17(9): 32–45. <https://doi.org/10.3390/ijerph17093215>.
- Sekaran, U. 2005. *Research Methods for Business*, Edition, 4. Publisher, John Wiley & Sons, Incorporated
- Wu, W.C., and T.C. Huan. 2010. "The effect of purchasing situation and conformity behaviour on young students' impulse buying." *African Journal of Business Management* 4(16): 3530.
- Wu, G., X. Deng and B. Liu. 2021. "Using fear appeal theories to understand the effects of location information of patients on citizens during the COVID-19 pandemic." *Current Psychology* <https://doi.org/10.1007/s12144-021-01953-8>.
- Xie, X., L. Huang, J. Li, and H. Zhu. 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): 31–48. <https://doi.org/10.3390/ijerph17093148>.



- Yasir, A., X. Hu, M. Ahmad, A. Rauf, J. Shi, and A. N. Saba. 2020. "Modelling impact of word of mouth and E-government on online social presence during COVID-19 outbreak: A multi-mediation approach." *International Journal of Environmental Research and Public Health* 17(8): 29–54. <https://doi.org/10.3390/ijerph17082954>.
- Zhu, X., S. Wu, D. Miao, and Y. Li. 2008. "Changes in emotion of the Chinese public in regard to the Sars period." *Social Behaviour & Personality* 36(4): 447–454.
- Zwanka, R.J., and C. Buff. 2021. "COVID-19 generation: A conceptual framework of the consumer behavioral shifts to be caused by the COVID-19 pandemic." *Journal of International Consumer Marketing* 33(1): 58–67.

**How to cite this article:** Srivastava, R.K., and S. Bhanot. 2022. "Study on the impact of COVID-19 on the purchase and mental behaviour of Indian consumers during lockdown." *International Social Science Journal*. 72:437–459. <https://doi.org/10.1111/issj.12329>