

A Study on Online Food Shopping in the Covid-19 Pandemic

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Abstract

The Covid-19 pandemic has changes the way of life; its impact has been noticed from smallest daily routine to biggest business deals. The food industry has also been affected hugely due to the pandemic. Most of the people switched to online food shopping the pandemic. Taking these circumstances into consideration, the present research aims to study the online food shopping scenario in the pandemic era. This study has twin objectives; first, to study the online shopping intentions of the consumers before the onset of the pandemic and after onset of the pandemic. Second, this study identifies the factors that influenced consumers in buying food through online mode during the pandemic. The respondents of this study include consumers who purchase food through online mode. The findings of the study reveal that number of people who have purchased food through online mode have increased after the onset of pandemic. Further, factors such as access to technology, apprehension due to covid-19, perceived value influenced online food purchases while issues of perceived hygiene (product and process) do not influence online food shopping. This study provides implications for the managers to build trust among the people regarding quality of their products and processes. Additionally, practitioners have to work on developing user interface that provides ease of access.

Key Words: Food Shopping, Online Food Shopping, Covid-19 Pandemic.

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1. INTRODUCTION

Since the beginning of the 1990s, new consuming patterns and habits have emerged as a result of the Internet. Certainly, e-commerce and mobile commerce have exploded in popularity in recent decades for online buying of a wide range of items and services, including food. (Shang & Wu, 2017). Despite having lower levels of penetration than other product categories, Web grocery shopping has recently enjoyed growing annual growth rates. According to latest Grand View Research (2020) according to the report, the global internet shopping business is worth around 190 billion dollars, with a compound annual growth rate of 24.8 percent expected from 2020 to 2027. There are lots of reasons for online food shopping becoming important like changing lifestyle, consuming habits and advantages of internet. In online shopping the user can access and compare a large number of products that are not available in local marketplaces, as well as (possibly) more aware about the items, as a result, purchasing online is more efficient than shopping in a store (Frick & Matthies, 2020). Buying over the internet can be done anytime and anywhere and the products can be received directly at the home which can ultimately saves time and money (Shankar et al., 2003) (Chu et al., 2010). Shopping over the internet has become really successful that totally changes the marketing strategies of the marketers in recent times as consumers have grown habituated to online purchase and the delivery of goods to their doorsteps from anywhere around the world (Bucko et al., 2018). Due to the emergence of COVID-19 the shift in consumer behaviour is greatly increased, driving businesses to reach out to even their most devoted brick-and-mortar customers online. This enormous task is unexpected, and it has compelled businesses to devise unique solutions in order to adjust to the changing normal (Carnevale & Hatak, 2020). Buyer behaviour has been seriously disturbed over the world as a result of restrictive shutdown restrictions and social-distancing practices (Sheth, 2020). The Indian market has great digital space for food industry, as online food businesses has expanded in our nation widely in recent times. Although, Indian online food business have expanded in India but several issues and problems are there that have restricted its outreach to few metro cities.

2. REVIEW OF LITERATURE

Chang & Meyerhoefer 2020 conducted a study in which they examined that how COVID-19 influenced the demand of consumers regarding internet food shopping services in Taiwan. The researchers used the data mainly from agri-food platform (e-commerce) within the Taiwan. The findings of the study show that when COVID-19 cases increased sales was also increased by 5.7% and also there were increment in quantity of customers by 4.9%. Due to COVID-19 the sale of products was also increased over the internet, implying as more customers come to internet platforms, the concentration of sales on niche products may expand. The researchers also found out that COVID-19 media coverage and internet content had a big impact on sales.

Mehroliya et. al. 2020 investigated the different characteristics of customers who ordered food and who did not through online mode when COVID-19 was circulating in India. Data collection was done from 462 consumers who buy food through online mode. The statistical tool "Binary logistic regression" was used in this study to investigate the different characteristics of consumers like age, frequency of patronage before shutdown, beliefs (affective & instrumental), product involvement and also perceived threat. The results of this research paper shows that consumers showing high level of perceived threat, less product involvement, low perceived benefit and low

frequency of ordering food from online mode are less likely if there are fewer online food orders. The research offers precise instructions for developing crisis management plans.

Alaimo et. al. 2020 conducted a research to find out which factors may influence online food purchase decisions during COVID-19 in Italy. Specifically, the research intends to investigate the influence of a collection of explanatory variables on the level of satisfaction regarding experience of online food purchasing. Researchers used cumulative logit model of statistics for the purpose of analysis. Data was taken from 248 respondents during the early months of COVID-19 through online questionnaire. The findings of the research underlines that people who are accustomed with online food shopping are highly educated and find online food shopping mode very easy to use, appear to be more pleased with their online food purchasing experience. The findings of this research paper could be very useful for the future green global concerns as internet buying could help companies gain a competitive advantage in the long run.

Alaimo et. al. 2021 have basically measured the satisfaction of consumers regarding buying of online food when COVID-19 was circulating in Italy through POSETs. The goal of this study is to expand on the index of consumer satisfaction with food purchased online through food shopping channels, employing important criteria that characterize online buying behaviour. The data was taken from internet like emails and social media through online questionnaire in the months of March to May 2020 and analysis was carried out with two dimensions (process and outcome) of customer satisfaction. The findings of this research show differentiation of two dimensions of customer satisfaction.

Ali 2020 in his study examined probable link between COVID-19 and consumer purchasing habits for electronic durable products in Iraq, with a particular emphasis on customer adaptations to the limitations. Researchers examined the data of Samsung Company to highlight how COVID-19 may have pushed Iraqi consumers to adopt technology, as evidenced by an increase in online sales. It shows that COVID-19 may have influenced Iraqi customers to adopt the new technology and adapt their lifestyles to the new restrictions.

Grashuis et. al. 2020 conducted an online study to investigate preferences for buying techniques, time windows, lowest order requirements, and fees. Researchers conclude that the COVID-19 pandemic's current trend is causing major variations in grocery shopping choices. Consumers are less eager to purchase inside the grocery store while COVID-19 is spreading rapidly. When COVID-19 spreads at a slower rate, the purchasing technique attribute's overall relevance decreases.

Koch et. al. 2020 conducted a study which explores the online shopping motivations of generation Y and Z during the lockdown due to COVID-19 in 2020. The data was collected from 451 consumers to investigate relationship between normative, utilitarian, and hedonic motives, as well as buying intentions using the tool SEM. The findings of the study reveal that consumers' buying intentions are connected by normative variables such as media reports on the economy, but not by the normative influence of nearby social networks. Additionally, researchers also discover that hedonic motivation predicts purchase intentions better than utilitarian motivation and people who practice physical distancing, generation Z, and women have greater hedonic motivation levels.

3. RESEARCH GAP

The COVID-19 has changed the way of living in many ways. Due to the deep impact caused by this pandemic, huge interest was generated among the researchers and the academicians regarding its impact in every walk of life. The business researchers have also devoted their attention to the impact of COVID-19 on various dimensions of business. However, studies on consumer behaviour towards online food purchase in the context of COVID-19 are limited. In view of this gap, this study has explored the dynamics of online food purchases in the COVID-19 era.

4. RESEARCH METHODOLOGY

4.1 Objectives

- i. To study the online food purchase frequency before and after the onset of pandemic.
- ii. To study the factors causing shift towards online food purchase.
- iii. To study the relationship between factors causing shift towards online food purchase and online food purchase frequency.

4.2 Hypothesis

- H1:** There is no statistically significant difference in online food purchase before and after the COVID-19 pandemic.
- H2:** Fear of COVID-19 does not impact online food purchase frequency.
- H3:** Perceived value does not impact online food purchase frequency.
- H4:** Perceived hygiene does not impact online food purchase frequency.
- H5:** Government restrictions during pandemic do not impact online food purchase frequency.

4.3 Population and Data Sources

This research is based on primary sources of data. The target population of this study include people who are purchasers of food through online mode across India. The data was collected using a structured questionnaire through an online survey.

4.4 Sample Selection and Survey Administration

Snowball sampling method was used to include respondents in the sample. The respondents were asked to fill the online questionnaire and they were requested to forward the questionnaire in their circle. Using this method, 350 respondents were surveyed across.

4.5 Data Cleaning

The data was checked for completeness and ambiguous entries before performing data analysis. During the data cleaning process, 18 responses were deleted due to missing entries while another set of 29 responses were deleted because the respondents were non-purchasers of food through online mode. Therefore, the final sample is 303 respondents.

4.6 Data Analysis

The data is analyzed through descriptive statistics such as mean and inferential analysis such as independent t-test and regression analysis. The independent t-test is performed to check statistically significant difference between purchase frequency of pre and post pandemic era. The regression analysis is performed to check relationship between factors causing shift towards online food purchase and purchase frequency of food through online mode.

5. RESULTS AND DISCUSSIONS

This section covers profile of the respondents, number and frequency of online food purchase before and after the onset of pandemic and factors causing consumer shift towards online food purchases.

Table 1: Sample Characteristics

Characteristics	Frequency	Percentage
Age		
Less than 20	21	7%
20 to 30	98	32%
30 to 40	91	30%
40 to 50	76	25%
Above 50	17	6%
Education		
Up to 12 th or less	37	12%
Graduate	98	32%
Post graduate	154	51%
Doctorate	14	5%
Occupation		
Government employee	41	14%
Private employee	103	34%
Self employed	51	17%
Home maker	25	8%
Student	83	27%
Gender		
Male	189	62%
Female	114	38%
Income		
Less than 10000	87	29
10000 to 30000	79	26
30000 to 50000	72	24
50000 to 70000	43	14
Above 70000	22	7

Source: Author's calculation based on field survey

The age-wise distribution of the respondents shows that highest number of respondents is in the age group of 20 to 30 numbering 98 forming 32% of the sample. The second highest respondents numbering 91 samples are in the age group of 30 to 40 forming 30% of the sample. The age group 40 to 50 has 76 respondents forming 25% of the sample. Respondents under the age group of 20 and above the age group of 50 have smallest number of respondents forming 7% and 6% respectively.

In terms of education, highest number of respondents is post graduates forming 51% of the sample followed by graduates with 32% of the sample. There are 37 respondents having educational attainment of 12th or less forming 12% of the sample. The doctorates numbering 14 respondents form the smallest group constituting 5% of the sample.

The sample distribution of occupation is slightly even. Private employees in the sample are 103 forming 34% of the sample. Students form the second highest group of respondents with a frequency of 83 respondents forming 27% of the sample. There are 51 self-employed persons; 41 government employees and 25 home makers in the sample forming 17%, 14% and 8% of the sample respectively.

The income distribution of the respondents reveal that 87 respondents have income less than 10000 forming 29% of the sample followed by 79 respondents in the income group of 10000 to 30000 forming 26% of the respondents. In the sample, 72 respondents (24%) have income in the range of 30000 to 50000; 43 respondents (14%) have income in the range of 50000 to 70000 and 22 respondents (7%) have income above 70000.

In terms of gender, there are 189 males in the sample forming 62% of the sample and 114 females forming 38% in the sample.

Table 2: Frequency of Online Food Purchase before and after the onset of COVID-19 Pandemic

	Frequency	Percentage
Purchasers of food through online mode before the onset of pandemic	201	66%
Purchasers of food through online mode after the onset of pandemic	102	34%

Source: Author's calculation based on field survey

The Table 2 shows the frequency of people who were purchasers of food through online mode before the onset of pandemic and number of people who have started purchasing food only after the onset of pandemic. As shown in the table, there are 201 (66%) respondents who are purchasing food through online mode even before the pandemic started whereas 102 respondents (34%) said that they have started online food purchases only after the onset of pandemic.

Table 3: Online Food Shopping Behaviour before and after the onset of COVID-19 Pandemic

	Before the onset of pandemic	After the onset of pandemic	t value	Decision
Frequency of purchase	2.78	3.31	9.418 (.000)**	H0: rejected

Source: Author's calculation based on field survey

Table 3 shows the comparison of purchase frequency of food before and after the onset of COVID-19 pandemic. As shown in the table, the monthly frequency of food purchase through online mode before pandemic was 2.78 which has increased to 3.31 after the onset of the pandemic. There is increase of 0.53 units in purchase of food through online mode after the onset of pandemic. The value of independent t-test is 9.418 and the p value is 0.000 which is less than 0.05 indicating that there is statistically significant difference.

Table 4: Factors Influencing Purchase of Food through Online Mode during the COVID-19 Pandemic

Factors	Mean
Access to technology	3.63
COVID-19 apprehension	3.91
Perceived value	3.12
Perceived hygiene	2.77
Government restrictions during pandemic	4.33

Source: Author's calculation based on field survey

The table 4 is the depiction of factors influencing consumers purchase decisions of food through online mode. The respondents strongly agree that they have switched to online mode of food purchase due to restrictions imposed by the government. The respondents have agree that fear due to COVID-19 pandemic is yet another major factor that has influenced them to switch to online mode of food purchase. Access to technology is third major factor that has influenced consumers to switch to online mode for food purchases. Perceived value is moderately agreed by the respondents as a factor that has influenced them in switching them to online mode of food delivery. Finally, respondents does not seem to be in agreement that perceived hygiene is a factor influencing consumer shift towards online mode of food purchase.

Table 5: Relationship between Factors and Purchase Frequency

	Standardized beta	t value	Decision
Access to technology	0.41** (0.000)	5.887	H0: rejected
Fear of COVID-19	0.52** (0.000)	11.291	H0: rejected
Perceived value	0.32** (0.000)	5.001	H0: rejected
Perceived hygiene	0.01 (0.124)	1.871	H0: accepted
Government restrictions during pandemic	0.74** (0.000)	15.291	H0: rejected
F- Value: 11.421 (0.000)			
R-square: 0.513			
Constant: 1.251			

Source: Author's calculation based on field survey

The table 5 illustrates the relationship between factors that have caused shift towards online food purchases and purchase frequency of food through online mode. The standardised beta value between government restrictions and purchase frequency is 0.74 and p value is 0.000 which is less than 0.05 implying H5 is rejected; indicating that there is positive relationship between imposition of government restrictions and purchase frequency. The relationship between government restrictions and purchase frequency is significant.

The standardised beta value between fear of COVID-19 and purchase frequency is 0.52 indicating a moderate relationship between the variables. The p value is less than 0.05 which shows H2 is rejected; indicating a statistically significant relationship between them.

The standardised beta value between access to technology and purchase frequency is 0.41 indicating a moderate relationship between them. The p value is less than 0.05 indicating H1 is rejected and showing the statistically significant relationship between access to technology and purchase frequency of food through online mode.

The relationship between perceived value and purchase frequency is weak to moderate because the value of standardised beta is 0.41. Since the p value is less than 0.05; H3 is rejected indicating there is statistically significant relationship between them.

Perceived hygiene is not statistically significant with purchase frequency of food through online mode because the standardised beta value is 0.01 indicating no relationship between them. The p value is greater than 0.05 indicating that H4 is accepted and implying there is no statistically significant difference between them.

6. MANAGERIAL IMPLICATIONS

This paper provides an insight of online food consumers before and after the COVID-19 pandemic. The study shows significant difference in purchase frequency before and after the onset of the pandemic. There is an increase in purchase frequency after the COVID-19 pandemic. The relationship between government restrictions, access to technology, fear of COVID-19, perceived value and purchase frequency is significant. The relationship between perceived hygiene and purchase frequency is not significant. This research study provides practical implications for managers. Online food delivery service providers need to take safety and hygiene measures. This research has consequences for managers who want to build people's faith in the quality of their products and processes. In addition, practitioners must work on creating a user interface that is simple to use.

7. CONCLUSION

The pandemic of COVID-19 has altered people's lifestyles; every business has felt the impact of pandemic. The food industry, being the primary sector, has undergone huge changes in the pandemic. People have shifted to the online mode for food purchases after the onset of lockdown. The purpose of this research is to figure out the phenomenon of online food shopping behaviour in the COVID-19 pandemic.

The number of people purchasing food through online mode has increased after the onset of pandemic. There are 66% respondents in the sample who are online food purchasers right before the pandemic started. The rest of 34% respondents have started online food purchases after the onset of pandemic.

Similarly, the frequency of online food shopping has increased after the onset of COVID-19 pandemic. There is net increase of 0.58 units in online food purchases. The difference between frequency of online food shopping before and after the onset of pandemic is statistically significant at 5% level of significance indicating that online food purchases have actually increased after the onset of pandemic.

Among the factors causing shift in online food purchases, imposition of restrictions by the government is listed as the major reason by the respondents followed by fear due to COVID-19. Perceived hygiene is not a major factor causing shift in online food purchasing.

Imposition of government restriction is strongly related to online food purchase frequency; access to technology, fear of COVID-19 and perceived value are moderately related to online food purchase frequency whereas perceived hygiene is not related with online food purchase frequency.

The study concludes that COVID-19 pandemic has indeed provided greater opportunities for the online food delivery business. The number and frequency of people purchasing food through online mode has increased. The restrictions imposed by government are additionally important from the perspective of business since these restrictions have shown to increase the frequency of online food purchases. These issues provide implications for the managers highlighting the need to develop focused campaigns stressing the hygienic processes that are in place. The marketers should develop communication with their customers highlighting the hygiene standards that they follow. The marketers have to build trust and initiate dialogue clearly communicating the processes so as to decrease the mistrust consumers hold regarding the issues of hygiene. Additionally, the user interface has to be made customer friendly because the results show that access to technology is an important factor in purchasing food through online mode. Easy interface will increase access to technology and large number of customers can be brought under the fold of online food purchasing.

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