An Empirical Study on Factors Catalyzing the Rapid Growth of Online Buying since COVID-19 in Delhi

Dr. Sangeeta Agrawal[1] Dr. Shallu Khatri[2]
Dr. Renu Aggarwal[3]

Abstract

The novel coronavirus (COVID-19) outbreak is markedly tragic for the human kind all over the globe. It has affected the global economy. In Delhi, the changes brought about by COVID-19 could be observed in consumer's pattern of buying, lifestyle changes and changed consumption preferences. This paper highlights the factors that contribute to changes in consumer buying behavior from physical store to on-line buying. The purpose of this research is to investigate the factors catalyzing the speedy growth of online buying in Delhi since the inception of COVID-19. The investigation categorically focuses on reasons as why consumers prefer online buying in comparison to in-store buying after the pandemic.

The present study was conducted between October 2021-December 2022, using a structured questionnaire and data was collected through google forms. Primary data was collected from 150 respondents of Delhi and was analyzed using descriptive technique and performing factor analysis.

The results clearly show the increased online buying since COVID-19 outbreak. Through factor analysis, six major factors were found to be affecting the consumers to move towards online buying from in-store buying .These factors are Health & Assured output, Economic & Convenient, Delivery & Availability, Time utilization, Experience & Regional Products and this study is important for companies as well as individuals who adopt online medium for selling their goods and services. This research findings have implications for online retail marketing firms for developing strategies with a view to provide enhanced customer satisfaction and winning over the competitors.

Keywords: COVID-19, online buying, factor analysis, catalyzing factors, changing trends, buying frequency

Introduction

The COVID -19 pandemic has eventually changed the globe as we all know it. In March 2020, the majority of the countries went into lockdown, compelling many businesses to shut down temporarily and permanently. Although countries are gradually relaxing the imposed restrictions, but the future is still not certain. The businesses which are gradually in the opening phase have restrictions like maintaining social distancing, wearing of masks, frequent use of sanitizers, having only vaccinated staff on-board with restrictive entry of customers to ensure limited numbers at a time etc. When traditional mode of purchasing becomes difficult, people start which was before pandemic as also an alternative.

People have adopted different living styles, accustomed to buying differently and more importantly thinking

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[1] *Assistant Professor, Delhi College of Arts & Commerce, University of Delhi, E-mail: sangeeta.gupta@dcac.du.ac.in*
[2] *Assistant Professor, Delhi College of Arts & Commerce,University of Delhi, E-mail: shallu.9891@dcac.du.ac.in*
[3] *Associate Professor, Deen Dayal Upadhyaya College, University of Delhi, E-mail: renu_aggarwal@ddu.du.ac.in*

differently. Across the world consumers are viewing the brands and products through a new lens. The COVID-19 has accelerated the long term primary trends in the time of just weeks. The eruption has forced consumers out of their normal routines. The buying behaviour of consumers has evolved during pandemic. During initial stages, many Delhi consumers were either in containment zones or were having restricted alternatives for making their purchases. The lockdown and afterwards safety measures taken to control the infection forces more consumers online. It exposed them to try new channels, products and brands which caused changed buying habits and their different ways of purchasing. The consumers have shifted to online platform for their all kind of needs like grocery, banking and personal hygiene etc.

As a response to pandemic the Delhi consumers have radically changed their lifestyle choices. This pandemic led to new and unique personal and socio-economic situations such as changed family income, concern for safety, value for money, healthy choices which in turn affects the consumer attitude and behavior. The emerging inclination for locally available goods and shift from price conscious to value conscious is a new trend. Few of these changes in the buying behavior using e-commerce surely be of long term nature, in the light of expected new waves of the pandemic, the safety , the new buying habits, learning costs and of course the opportunity for firms to capitalize on investments in modern sales channels.

Online marketing is no doubt an integral aspect of all the business's marketing strategy. In spite of the tremendous acceptance of digital platform, the businesses need to understand as how the epidemic will affect the landscape of online marketing which is critical for developing business planning and strategies for the growth and expansion of the online companies. This is going to be a new trend and buying behaviour which consumers are continuing even post COVID-19.

Although from consumers perspective many challenges related to trust, digital safety, consumer protection and privacy have been addressed giving sharp relief. To address such issues more aggressively, governments should expand economic and qualitative broadband to rural and undeserved areas to facilitate financial inclusion and skill acquisition to participate in e-commerce activities

The present research investigates the most influencing factors that affect the customer's online buying behaviour in Delhi. This research paper will certainly help to develop various strategies among businesses and their competitors. By knowing the critically important factors the companies can emphasize on those special aspects and accordingly form customer oriented policies to meet their needs effectively.

Literature Review

The COVID-19 lockdown has influenced consumer's purchasing medium and choice. Various factors have been identified by different researchers throughout the world, impacting consumer's buying behaviour. The shift of consumer's preference from usual brick and mortar option to online buying is witnessed during this pandemic.

In the time of new generation, the number of people shopping online has significantly outgrown in a year affecting business world. (Vasic, Killibarda & Kaurin, 2019) Online shopping has vast economic prospects. Online traders have to understand the scope of the industry and for the development of economically potential industry, the traders should realize that determinants of success is not totally dependent on website presence, low price, product variety but of course on service quality also. The consumers should be satisfied with the additional benefits that they will receive from online shopping. (Sadia, Hoq & Jebu, 2019).The influence of COVID-19 has been found on online business of the world. The nature of business has been altered because of pandemic. According to the study more than 50 percent shoppers are avoiding offline shopping and places which are crowded. (Bhatti et al., 2020)

Internet plays a vital role in electronic business that provides various facilities. The various products, the websites and mobile apps to make shopping better. There are many drivers of online sopping such as variety of products, convenient buying, reasonable price and various payment options. (Charumathi and Rani, 2017). The study found less time consuming, convenient mode of payment and various organizational factors affect the online purchasing behaviour. (Neger and Uddin, 2020)

Most of the consumers in the world, doing online buying using various online sites or mobile apps is becoming a cornerstone every day. In April month, the interest of buyers was in online grocery shopping and other essential items. (Hashem, 2020)

The other study found that the COVID-19 has affected consumer behaviour with respect to more reliance on online shopping. The restrictive movement, convenience and time saving and digital transformation of local shop of Kirana are the major factors driving online buying. (Bharti Aggarwal & Deepa Kapoor, 2020)

Another study found that need for cereals, fruits, fresh vegetables and precooked pack of food have been raised, benefitting small scale farmers in agronomy. (Chang & Mayerhoefer, 2020)

Objectives

1. To study the changes in frequency of online buying before and during COVID-19, pandemic in Delhi

2. To study the product category changes used to buy before and during COVID-19, pandemic in Delhi

3. To identify the factors which enforces consumers to adopt online buying in Delhi during COVID-19

Research Methodology

For the current study, Delhi is considered as the population of the study .A structured questionnaire was developed to collect the required primary data from the consumers. The questionnaire consists of two distinct sections, each of which contains relevant questions pertaining different parts of the study. Utmost care was taken while framing questions to gather maximum and more relevant information by providing multiple choices close ended questions. The method used was non-probability, convenience sampling. 175 questionnaires were distributed but only 150 of them were useable.

No specific characteristics were defined for the respondents. First section of the questionnaire was to collect the demographic and personal details of the respondents. The data was collected with the respondents from different occupation, income, and age group. Second section of questionnaire includes study of nineteen variables to examine their effect on consumer's attitude towards online buying after COVID-19 in Delhi

The respondents were provided a series of statements to measure their degree of agreement for each variable.

Each variable is rated on a likert ranking scale of one to five (One=Strongly disagree, two=Agree, three=Neutral, four=Agree, five=Strongly agree).The data collected from questionnaires were analysed by reliability Analysis and factor analysis.

Data Analysis and Interpretations

Respondents' demographic profile

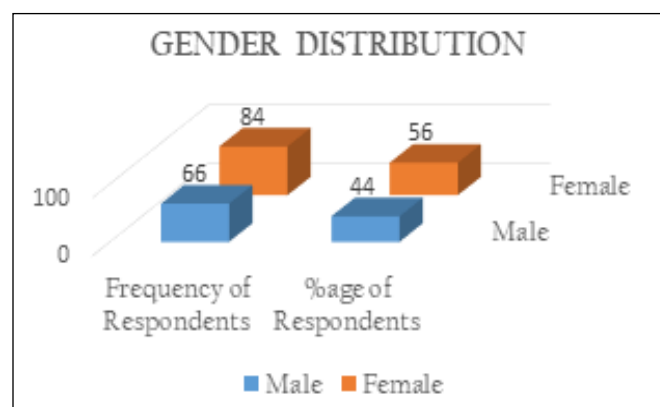**Figure 1: Gender wise distribution of Respondents**

Figure 1 shows that majority of respondents are female i.e. 56 percent and males are 44 percent

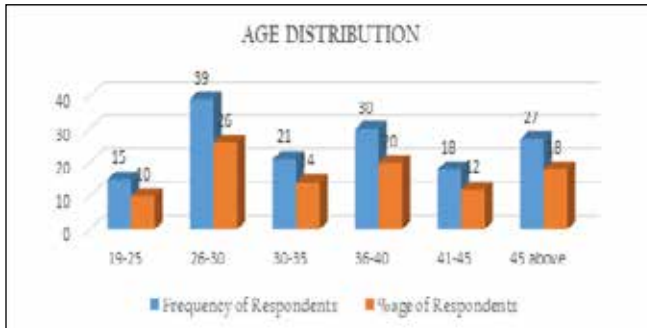**Figure 2: Age wise distribution of Respondents**

Figure 2, shows 26 percent of the respondents are aged 26-30 years of age, followed by aged 45 and above. The lowest group is 19-25 years of age which represents 10 percent

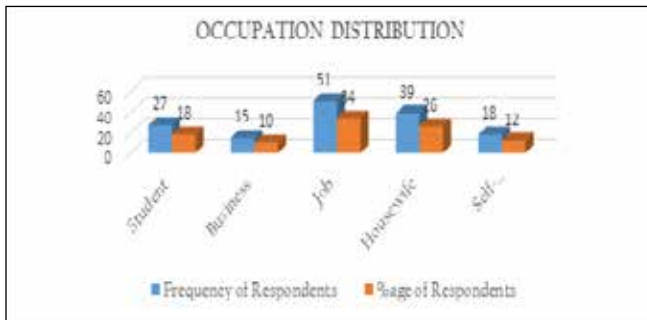**Figure 3: Occupation wise distribution of Respondents**

Figure 3 shows that 34 percent are doing job, 26 percent is housewife category and business 10 percent category is the lowest percentage group of all the categories

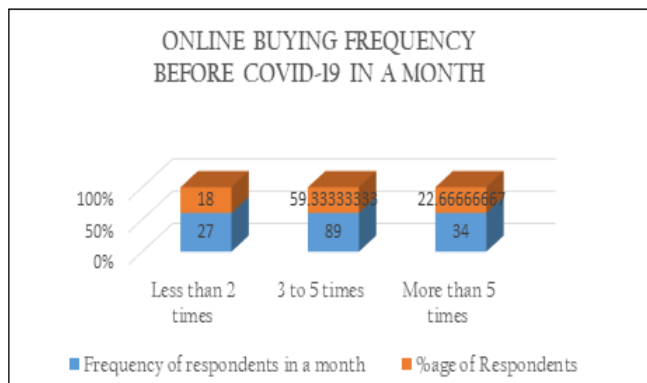**Figure 4: Online buying frequency before COVID-19**

Figure 5: Online buying frequency during COVID-19
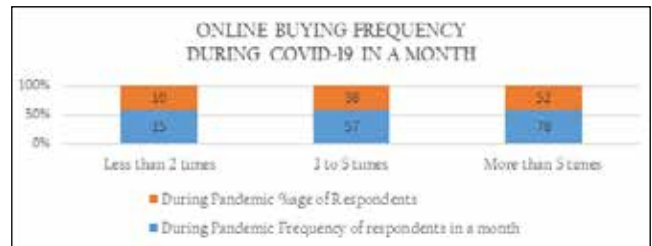
Figure 4 and 5 data shows the tremendous increase in online buying activity in terms of frequency during COVID-19 in comparison to usual earlier time before pandemic in Delhi. Before pandemic only 22.6 percent of the consumers were buying online (more than five times in a month) while during COVID-19, 78 percent started buying online (more than five times).

Figure 6: Online buying of product categories bought before COVID-19

Figure 7: Online buying of product categories bought during COVID-19

Figure 6 and 7 shows how product preferences and choices changes before and during COVID-19 of online buying. Before COVID-19, 42 percent of consumers were buying fashion items (Clothes& Cosmetics) online followed by restaurant food (26

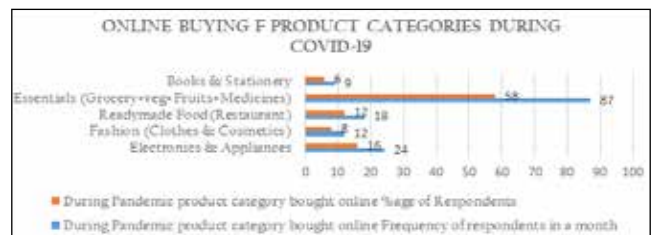percent) and only six percent consumers were buying books & Stationery online. But during COVID-19, 58 percent of the consumers purchased essentials and only eight percent consumers purchased fashion and least preferred product still remains the books & stationery as six percent.

Factor Analysis

Using the statistical software package SPSS 20.0, factor analysis was carried out on the results obtained from data of 150 respondents. Since, Factor analysis represents an analytical process of transforming statistical data (as measurements) into linear combinations of variables, it is a meaningful statistical method used for combining a large number of data into a considerably smaller number of factors with a minimum loss of information (Hair, et al., 1992) The extraction method the principal component analysis (PCA) and varimax rotation were carried out to explore the underlying factors associated with 19 items.

Table 1: 19 Research variables intention towards online buying

S.No	Variables
Var 1	Risk of Covid in in-store buying
Var 2	Standard product quality in online buying
Var 3	I get timely delivery as notified
Var 4	Simple ordering process
Var 5	Professional consumer support departments
Var 6	Financial savings as offers and discounts
Var 7	Wide range of brands
Var 8	Quick , safe and easy payment options
Var 9	Mobile friendly apps
Var 10	Easy product return policy
Var 11	Variety of product alternatives
Var 12	Pleasure of usage to cover-up staying at home boredom
Var 13	24X7 availability
Var 14	Free shipping
Var 15	contactless service-order and delivery
Var 16	Few products are scarce in physical store but available online during COVID-19
Var 17	Previous online shopping experience
Var 18	Buying locally new brands and products i.e. made in India
Var 19	Value for money

The variables validity was tested applying Bartlett's Test of Sphericity and The Kaiser–Mayer–Olkin Measure of sampling adequacy analysing the strength of association among variables. The Kaiser–Mayer–Olkin measure of sampling adequacy (KMO) was first computed to determine the suitability of using factor analysis. It helps to predict whether data are suitable to perform factor analysis. KMO is used to assess which variables to drop from the model due to multicollinearity problem. It also determined the suitability of performing factor analysis. To determine the minimum loading necessary to include an item in its respective constructs, items with loading of 0.50 or greater were acceptable. If this does not have achieved, then it is necessary to drop the variables with lowest Eigen values until KMO overall rises above 0 .60.

Table 2: KMO and Barlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.710
Bartlett's Test of Sphericity	Approx. Chi-Square	1260.846
	df	171
	Sig.	0.000

Result for the Bartlett's Test of Sphericity and the KMO in table 2 reveals that both were highly significant and concluded that this variable was suitable for the factor analysis.

Table 3: Total Variance Explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.512	18.487	18.487	3.512	18.487	18.487	3.503	18.438	18.438
2	2.589	13.625	32.112	2.589	13.625	32.112	2.335	12.289	30.727
3	2.053	10.804	42.916	2.053	10.804	42.916	2.074	10.914	41.641
4	1.866	9.819	52.735	1.866	9.819	52.735	1.868	9.829	51.47
5	1.731	9.111	61.845	1.731	9.111	61.845	1.851	9.744	61.214
6	1.407	7.407	69.252	1.407	7.407	69.252	1.527	8.038	69.252
7	0.995	5.238	74.489						
8	0.83	4.368	78.857						
9	0.671	3.534	82.391						
10	0.65	3.421	85.812						
11	0.574	3.023	88.835						
12	0.489	2.576	91.411						
13	0.417	2.197	93.608						
14	0.334	1.759	95.366						
15	0.277	1.457	96.823						
16	0.225	1.182	98.005						
17	0.164	0.862	98.867						
18	0.125	0.655	99.523						
19	0.091	0.477	100						

Extraction Method: Principal Component Analysis.

The total variance explained by Principal Component Analysis (PCA) is shown in **table 3**. It shows that there was a significant drop in the Eigen values from seventh component onwards. Hence, the first six components were considered, which together explain 69.25% of the total variance. To determine the minimum loading necessary to include an item in its respective constructs, Hair et al. (1992) suggested that variables with loading greater than 0.30 is considered significant, loading greater than 0.40 more important, and loading 0.50 or greater are very significant.

Table 4: Extraction Method: Principal Component Analysis.						
Rotation Method: Varimax with Kaiser Normalization						
Rotated Component Matrix						
	Component					
	1	2	3	4	5	6
VAR00001	**0.82**	-0.001	0.094	0.003	-0.046	0.004
VAR00002	**0.867**	0.085	0.026	0.041	0.016	0.058
VAR00003	**0.698**	-0.062	-0.127	0.067	0.068	-0.052
VAR00004	**0.893**	-0.011	-0.027	-0.023	-0.005	0.01
VAR00005	**0.88**	0.035	0.018	-0.046	-0.022	0.01
VAR00006	0.063	**0.687**	-0.126	-0.105	-0.047	-0.091
VAR00007	0.008	**0.686**	0.116	0.187	-0.083	0.112
VAR00008	-0.04	**0.754**	0.122	0.167	-0.024	0.104
VAR00009	-0.004	**0.879**	-0.051	-0.1	0.003	0.055
VAR00010	0.002	0.059	0	-0.158	-0.058	**0.862**
VAR00011	0.014	0.088	-0.009	0.226	0.04	**0.834**
VAR00012	0.045	0.077	0.009	**0.931**	-0.002	0.072
VAR00013	-0.004	0.026	-0.004	**0.9**	-0.082	-0.022
VAR00014	-0.069	0.103	**0.794**	-0.047	-0.088	-0.132
VAR00015	0.078	-0.076	**0.749**	0.018	0.111	0.126
VAR00016	-0.029	0.019	**0.898**	0.04	-0.009	-0.007
VAR00017	0.016	-0.038	0.021	-0.057	**0.843**	0.068
VAR00018	-0.014	-0.013	-0.038	-0.107	**0.859**	0.007
VAR00019	0.006	-0.063	0.024	0.055	**0.695**	-0.07

Variance %	Factor	Variables
Table 5 : The factor loading of 19 variables six factors	
18.4	Health & Assured output	Risk of Covid in in-store buying
		Standard product quality in online buying
		I get timely delivery as notified
		Simple ordering process
		Professional consumer support departments
13.6	Economic & Convenient	Financial savings as offers and discounts
		Wide range of brands
		Quick , safe and easy payment options
		Mobile friendly apps
10.8	Delivery & Availability	Free shipping
		contactless service-order and delivery
		Few products are scarce in physical store but available online during COVID-19
9.8	Time utilization	Pleasure of usage to cover-up staying at home boredom
		24X7 availability
9.1	Experience & Regional Products	Previous online shopping experience
		Buying locally new brands and products i.e. made in India
		Value for money
7.4	Product variety & Easy return	Easy product return policy
		Variety of product alternatives

For this study, the general criteria were accepted items with loading of 0.50 or greater. The results shown in **table 4**.

The factor loading of 19 variables was then observed, and the variables were clubbed into six factors as shown in **table 5**.

Findings & Conclusion

The analysis and scrutiny of the primary as depicted in the above tables indicates that of the Six deduced factors, the first important factor ie "Health & Assured output" played a vital role in consumers choice towards Online buying and could be improved by proper innovative ideas of hygiene and safety and more assured commitments. It is determined by the promptness of response to the complaints and proactive solution to it. The second factor Economic & Convenient is emerged as an important factor which is money saving and easy handling of online buying. Delivery & Availability as a third important factor, Time utilization as fourth influencing factor, Experience & Regional products, the fifth important factor. Last but not least, the sixth factor as Product variety & Easy return

With the understanding of importance of these factors, online companies should concentrate on them as they are indirect components of encouraging online buying and strongly influence a customer's choice of in-store or online buying

Also, findings highlights the number of people that used to do online buying (more than five times in a month) before the COVID-19 has tremendously increased from 22.6 percent to straight away 52 percent. The results are indicative enough for the companies to prioritize their resources towards more aggressive online marketing and selling strategies along with providing a safe and secure medium to buy.

Also, findings highlights the movement of consumers to order online from fashion to essential commodities. Before COVID-19, 42 percent of consumers were buying fashion items (Clothes& Cosmetics) online followed by restaurant food (26 percent) and only six percent consumers were buying books & Stationery online. But during COVID-19, 58 percent of the consumers purchased essentials and only eight percent consumers purchased fashion and least preferred product still remains the books & stationery as six percent.

With a view of resonating with the modern consumers, e-companies needs to make a deliberate effort to perform consciously and grow in a tenable manner. They should encourage a healthy lifestyle to stay in the eyes of the consumers. The shift of being price sensitive to value conscious of consumers demands a lucrative value preposition offer from the online companies. With the increasing interest of consumers in local signifies the importance for companies to explore customisation locally. As a key rule, consumer should be the centre of locus.Infact digitalisation should be a priority for the traditional retailers to survival.

The findings of this study can help online companies in their operation and strategic plan of marketing. It can be conclude that online companies should create an epithetical relationship with the customer through innovative redressal plans and enhance their services quality & brand image, better connectivity and goodwill with the consumer because the consumer always want more from their brands. They should keep on adding new supplementary services and make an offer worth for value for money. Also marketers could work on the areas which are left unattended or has not been given much of the attention like new ways to handle consumers in new normal of COVID-19 etc. In addition, online companies should train their employees to be sensitive to the special needs and wants of customers. To successfully compete in today's value conscious environment, online companies in Delhi must establish the value of their offers as superior to others. Also firms should maintain integrity with transparency while using

huge amount of consumer data for any critical decision making

The policymakers must adopt specific measures to facilitate adoption of e-commerce among enterprises which are small and medium, create pools of specialized talents and attract investors across the nations.

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