



## The Shift in Customer Behaviour Toward Using E-Pharmacies to Purchase Medications

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**Abstract:** Customers can visit and purchase medications from e-pharmacies online without visiting a pharmacy. However, there are always two sides to every story. Some clients choose to buy prescription drugs online. Anyone can now purchase anything online, including groceries, clothing, and electronics, thanks to the advancement of digital technology and the expansion of e-commerce platforms. As a result, purchasing prescription medications online has emerged as the new standard during this pandemic crisis. E-pharmacies are a cutting-edge and fascinating business idea that has the potential to revolutionize the healthcare sector. By doing away with middlemen, these online pharmacies that are entering the Indian market want to improve the availability of pharmaceuticals. This research attempts to examine and analyze the changing trends in medicine purchases. The project's objective is to understand how customers feel about online pharmacies and whether or not they will utilize them in the future. The sample size for the study was 520, and 12 items were included in the questionnaire presented to respondents. The results show that although only 46.34 per cent of respondents currently use e-pharmacies, 89.03 per cent of respondents are willing to use them in the future. According to the survey questionnaire, contactless delivery and convenience were the main factors influencing people to buy drugs from online pharmacies. The study sample could not be typical of the overall population of India, which is the research's main flaw. Despite the gradual pace, people are starting to change how they buy drugs from online pharmacies. The COVID-19 outbreak made drug purchases through online pharmacies easier.

**Keywords:** E-pharmacies; Medicines; Online Pharmacy, Customers; Purchase

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## 1. INTRODUCTION

E-pharmacies, or internet pharmacies, are only one illustration of how recent technological developments may result in a rise in the need for pharmaceuticals in the near future. E-pharmacies are online drug delivery services that let customers visit and buy medications without going to a physical pharmacy. There are always two sides to every coin, though. Some customers decide to purchase medications online. Due to the development of digital technology and the growth of e-commerce platforms, it is now possible for anyone to buy anything online, including groceries, apparel, and gadgets. As a result, buying prescription drugs online during this pandemic crisis has become the new norm<sup>1-5</sup>. Customers were found to favour the "home delivery" of online purchased pharmaceuticals and would prefer to order online in times of acute illness, according to Srivastava and Co-authors<sup>6</sup>. Utilizing the e-pharmacy program is easy. Customers would lose faith if out-of-date and unclear information were readily available. Gupta and Co-authors<sup>7</sup> surveyed consumer purchasing behaviour in e-pharmacies with 100 randomly selected respondents from Jaipur. Consumer knowledge of e-pharmacy was quite strong, according to the poll.

Residents in Jaipur purchase their medications via physical and online pharmacies. In teaching consumers about the numerous risks connected with buying medicines from an online pharmacy, the government and other agencies still have a lot of work to do. According to Singh and Co-authors<sup>8</sup>, e-pharmacy has several benefits for society. E-pharmacy aims to provide affordable medication delivery to all places. However, a significant problem with e-pharmacy is self-medication. The Drug and Cosmetics Act of 1940 and the Pharmacy Act of 1948 were too out-of-date and did not include any provisions for operating internet pharmacies; therefore, the Indian government established regulations for their operation. There are currently no practical guidelines for internet drug sales. To prevent drug abuse, the authors advised proper verification of scanned prescriptions throughout the ordering procedure and verification at delivery. In a poll with 100 participants, Pujari and Co-authors<sup>9</sup> found that only 60% of people chose their medications based on a doctor's recommendation. In contrast, the magazine, online literature, family, and friends requests were also considered. In a survey study with 252 participants, Salter and Co-authors<sup>10</sup> found that 66 per cent bought prescription drugs online.

## 2. MATERIALS AND METHODS

### 2.1 Variables Used

A couple of the survey's more precise goals are as follows:

1. To comprehend consumer satisfaction and commitment to brick-and-mortar or internet pharmacies.

2. To examine the types of medications purchased either offline or online.
3. To determine how many people purchase prescription drugs online.
4. To examine the different categories of internet drug buyers critically.

Consumer behaviour served as the independent variable. The dependent variables were employed to achieve these goals: cost, service, type of medicine, customer satisfaction with online medicine purchases, and potential use of e-pharmacies.

### 2.2 Sample Size

For this inquiry, convenience sampling was used as a strategy. The sample comprised 520 individuals in total. Twelve questions on a Google form were asked to anyone who could participate. Given the extensive number of questions, this sampling technique proved helpful and is regarded as the best for descriptive research.

### 2.1 Sample Characteristics

A sample population's defining characteristic is its demography. It is essential to establish the demographic characteristics of the sample population while surveying because doing so will make it simpler to classify the data in a meaningful way. Their age, level of education, and city of residence are all mentioned in the first section of the form.

### 2.2 Research Methodology

Using a quantitative analytic approach, the research questionnaire's answers were discovered. An analysis feedback form with 12 questions was created, tested, and disseminated among 520 respondents (via convenience sampling) using a Google form to learn about customer preferences and purchasing behaviours towards e-pharmacy<sup>11-14</sup>.

## 3. RESULTS AND DISCUSSION

### 3.1 Demographic and socio-economic of Respondents

Table I displays the ages of the respondents, the respondents' educational backgrounds, and the respondents' places of residence. Of them, 64.23% are between 18 and 24, followed by 25 to 35, 36 to 50, and those beyond 51. With 61.7% of the respondents being graduates, the majority are followed by 30% of postgraduate responders. In addition, 6.5% of respondents had completed grade 12, and four had doctorates. Finally, 48% of respondents are from Tier 1 cities, compared to 27% from Tier 2 and 25% from Tier 3 cities.

Table I: Demographic and socio-economic profile of Respondents			
Demographics of Respondents	Frequency	Per cent	Cumulative Percent
<b>Age groups in Years</b>			
18-24	334	64.23	64.23
25-35	141	27.11	91.34
36-50	21	4.03	95.37
51+	24	4.61	100.0
<b>Total</b>	<b>520</b>	<b>100.0</b>	-
<b>Educational Qualifications</b>			
10 <sup>th</sup>	5	0.96	0.96

12 <sup>th</sup>	34	6.5	7.46
Graduate	321	61.7	69.16
Postgraduate	156	30	99.16
Doctorate	4	0.76	100.0
<b>Total</b>	<b>520</b>	<b>100.0</b>	<b>-</b>
<b>Place of residence (City)</b>			
Tier 1 City	249	47.88	47.88
Tier 2 City	141	27.11	74.99
Tier 3 City	130	25	100.0
<b>Total</b>	<b>520</b>	<b>100.0</b>	<b>-</b>

*Table 1 included the demographic and socio-economic profiles of Respondents as the ages of the respondents, the respondents' educational backgrounds, and the respondents' places of residence.*

### 3. STATISTICAL ANALYSIS

#### 3.1 Analysis of Reliability (Cronbach's Alpha)

Internal consistency is measured by Cronbach's alpha, which indicates how closely linked a group of items is to one another. It serves as a gauge of scale reliability<sup>15-19</sup>. The respondents were given a list of 12 statements involving the purchasing of

drugs, and they were asked to score their level of agreement with the claims on a 4-point Likert scale. Their perspectives on online pharmacies and their experiences buying prescription medications online were discussed in the statements. The replies to these questions were subjected to a reliability analysis to determine whether the data was generally consistent. The fifteen items had an alpha coefficient of 0.910. Things are internally consistent as a result.

#### 3.2 Use of E-Pharmacy Apps for Medicines

Table 2: Online Medicine Buying			
Valid	Frequency	Per cent	Cumulative Percent
Yes	241	46.34	46.34
No	279	53.65	100.0
Total	520	100.0	-

*Table 2 shows a yes/no response to the question of whether or not people purchase medications online. More than 50% of respondents oppose ordering prescription drugs online. Although it has been demonstrated that people are switching from traditional pharmacies to online pharmacies to get their medications; the transition may take some time.*

Table 3: Justification for online drug purchases			
Reasons for buying online medicines	Frequency	Per cent	Cumulative Percent
Time-Saving	15	6.25	6.25
Discounts & Offers	54	22.08	29.2
Contactless Option	22	9.1	37.5
Lower Price	20	8.33	45.8
Home Delivery	29	12.08	58.3
Home Delivery & Discounts	16	6.67	64.6
Convenience	51	21.25	85.4
Emergency	4	1.66	87.5
Availability	30	12.5	100.0
Total	241	100	-

*When asked if they had used online pharmacies, 22.08 per cent of respondents, or 10.2 per cent of the total, said they had, with availability and convenience coming in second and discounts and offers in third (Table 3).*

#### 3.3 Knowledge of E-Pharmacy Apps and Most Common Apps

When given other options to choose from, PharmEasy received the most selections, followed by NetMeds and Tata 1mg. Because respondents could choose more than one

answer, the graph was plotted against frequency rather than a percentage. As a result, no individual response was obtained from each respondent. If interpreted differently, the analysis would be biased. According to Table 4 and Figures 1 and 2, PharmEasy was discovered to be the most popular app among the respondents.

Table 4: Most popular e-pharmacy apps for online drug purchases			
Name of E- pharmacy App	Frequency	Per cent	Cumulative Percent
PharmEasy	103	37.73	37.73
Tata 1mg	82	30.04	67.77
NetMeds	41	15.02	82.78
MedLife	19	6.96	89.74
Practo	10	3.66	93.41
Wellness Forever	7	2.56	95.97
Others	11	4.03	100.00
Total	273	100	-

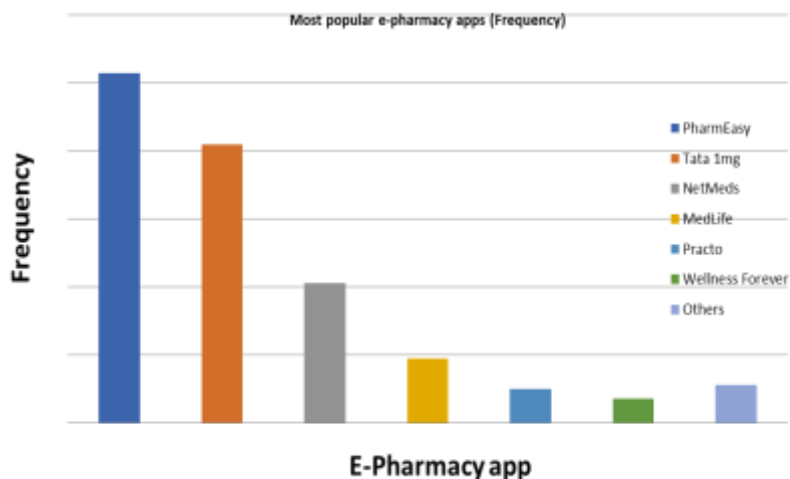


Fig 1: Most popular e-pharmacy apps for online drug purchases

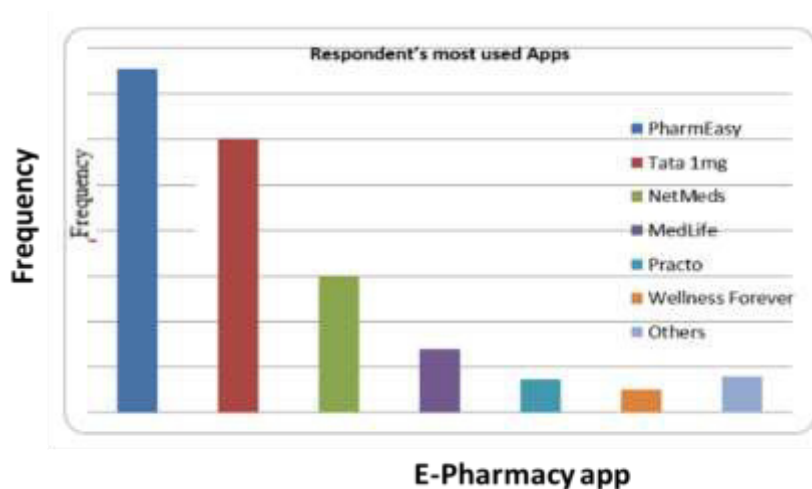


Fig 2: Respondent's most used Apps

### 3.4 Level of Spend in E-Pharmacies:

Table 5: Level of spending in e-pharmacies			
Response	Frequency	Per cent	Cumulative Percent
Yes	166	31.9	31.9
No	354	68.07	100.0
Total	520	100.0	-

The respondents were asked if the pandemic has caused them to spend more money at internet pharmacies. The majority of respondents selected No. This may suggest that these respondents choose to keep purchasing some of their medications offline or that they have only recently begun using online pharmacies due to the COVID-19 lockdown (Table 5).

Table 6: Reasons for the increase in spending			
Reasons for the increase in spending	Frequency	Per cent	Cumulative Percent
Convenience	61	36.52	36.52
Discounts & Offers	26	15.65	52.72
Contactless option	73	44.34	96.06
Choices	6	3.47	100.0
Total	166	100	-

*The option of contactless delivery was cited as the primary justification by respondents who answered "Yes" when asked why. The explanation for the rise in spending is shown in Table 6.*

### 3.5 Consumer Satisfaction Based on Selected Parameters

Based on criteria like affordability, a variety of payment options, customer service, availability of medications, expiration of medications, timely delivery, contactless delivery, and availability of medications, respondents were asked how satisfied they were with purchasing medications online. The frequency and percentage of respondents who were happy with the parameters mentioned above are shown in Table 7.

The majority of survey participants are satisfied with the accessibility of medications. Most respondents who were asked to rate the expiry of medicines, whether they were content with the expiry date on the medications they received, expressed their satisfaction. They consequently obtain medications with longer expiration dates. The respondents expressed satisfaction with the prompt delivery as well. The same holds for contactless delivery, prompt delivery, cost-effectiveness, various payment methods, and customer service.

Table 7: Rating Levels of the Consumer Satisfaction				
Rating	Respondents satisfaction level	Frequency	Per cent	Cumulative Percent
Medicines Availability	Least Satisfied (1)	11	3.99	3.99
	Less Satisfied (2)	10	3.62	7.61
	Neutral (3)	104	37.68	45.29
	Satisfied (4)	106	38.41	83.70
	Highly Satisfied (5)	45	16.30	100.00
	Total	276	100	-
Expiry of medicines	Least Satisfied (1)	26	9.00	9.00
	Less Satisfied (2)	11	3.81	12.80
	Neutral (3)	102	35.29	48.10
	Satisfied (4)	87	30.10	78.20
	Highly Satisfied (5)	63	21.80	100.00
	Total	289	100	-
Contactless delivery	Least Satisfied (1)	16	5.63	5.63
	Less Satisfied (2)	14	4.9	10.53
	Neutral (3)	93	32.74	43.27
	Satisfied (4)	91	32.04	75.31
	Highly Satisfied (5)	70	24.64	100.0
	Total	284	100	-
Affordability	Least Satisfied (1)	10	3.52	3.52
	Less Satisfied (2)	14	4.9	8.42
	Neutral (3)	93	32.74	41.16
	Satisfied (4)	97	34.1	75.26
	Highly Satisfied (5)	70	24.64	100.0
	Total	284	100	-
Multiple payment options	Least Satisfied (1)	16	3.0	5.3
	Less Satisfied (2)	14	2.8	10.5
	Neutral (3)	93	17.8	43.9
	Satisfied (4)	91	17.5	75.4
	Highly Satisfied (5)	70	13.46	100.0
	Total	284	54.56	-
Customer Service	Least Satisfied (1)	21	4.8	5.3
	Less Satisfied (2)	29	5.8	10.5
	Neutral (3)	79	15.4	43.9
	Satisfied (4)	119	23.1	75.4
	Highly Satisfied (5)	46	8.7	100.0
	Total	284	57.7	-

*The frequency and percentage of respondents who were happy with affordability, variety of payment options, customer service, availability of medications, expiration of medications and contactless delivery are shown in Table 7.*

### 3.6 Buying Trends of Different Types of Medicines

We questioned them about four different categories of medications and whether they purchased them online, offline, or both. The frequency and percentage of respondents who selected their preferred method of purchasing over-the-counter medications, prescription medications, vitamins and other dietary supplements, and homoeopathic medications

were displayed in Table 8. The vast majority of responders selected "Offline" for general medicines. Over 60% of the respondents also chose "Offline" for prescription drugs. When it comes to vitamins and other supplements, the two options, "Online" and "Offline," are closely tied, with "Offline" having a more significant number. Over 80% of respondents chose the "Offline" option of purchase for homoeopathic.

Table 8: Buying Trends of Different Types of Medicines				
Buying Trends of Different Types of Medicines		Frequency	Per cent	Cumulative Percent
Online/Offline buying of general medicines	Online	200	38.5	38.5
	Offline	274	52.9	91.3
	Both	46	8.7	100.0
	Total	520	100.0	-
Online/Offline buying of prescription medicines	Online	152	28.8	28.8
	Offline	348	67.4	96.2
	Both	20	3.8	100.0
	Total	520	100.0	-
Online/Offline buying of vitamins and other supplements	Online	235	45.1	45.1
	Offline	256	49.2	94.2
	Both	29	5.8	100.0
	Total	520	100.0	-
Online/Offline buying of homoeopathic medicines	Online	71	13.5	13.5
	Offline	434	83.7	97.1
	Both	15	2.9	100.0
	Total	520	100.0	-

The frequency and percentage of respondents who selected their preferred method of purchasing over-the-counter medications, prescription medications, vitamins & other dietary supplements and homoeopathic medications were displayed in Table 8.

### 3.7 E-Pharmacy Trends for the Next Few Years

Table 9: E-Pharmacy Trends for the Next Few Years			
Response of respondents	Frequency	Per cent	Cumulative Percent
Yes	254	48.84	49.0
Maybe	210	40.03	89.0
Not Sure	35	6.7	96.0
No	21	3.8	100.0
Total	520	100.0	-

When asked if they would continue to buy or would like to purchase medicine online from e-pharmacies, 48.84% of respondents said "Yes," with the remaining respondents saying they were undecided. This may indicate that although confidence is slowly being built, customers are switching from traditional pharmacies to online pharmacies (Table 9).

### 3.8 Cross Tabulation of Variables

#### 3.7.1 Age Group vs Educational Level

A cross-tabulation of the variables was done to dig deeper into the study. It was determined how many replies fell into each of the age categories that were offered.

Table 10: Age group vs Educational qualifications						
Age group (in Years)	10 <sup>th</sup>	12 <sup>th</sup>	Graduate	Postgraduate	Doctorate	Total
18-24	5	19	232	74	4	334
25-35	0	11	63	63	0	137
36-50	0	4	12	9	0	25
51+	0	0	14	10	0	24
Total	5	34	321	156	4	520

According to Table 10, most respondents in the 18–24 age range are graduates, while the 25–35 age range has an equal proportion of graduates and postgraduates.

### 3.9 Age Group Vs City

Table 11: Age Group Vs City				
Age group	Tier 1	Tier 2	Tier 3	Total
18-24	159	91	88	338
25-35	73	33	32	138
36-50	9	9	4	22
51+	11	5	6	22
Total	252	138	130	520

Table 11 displayed a cross-tabulation of age groups and cities. Tier 1 cities contributed more than 150 respondents in the 18–24 age range, followed by Tier 2 and Tier 3 cities with 92 and 88 respondents, respectively. Similar results were found for the age range of 25 to 35, where most respondents lived in Tier 1 cities, followed by Tier 2 cities and Tier 3 cities.

### 3.10 Age Group Vs Familiarity of E-Pharmacy App

Additionally, it was determined what age group the respondents who were aware of e-pharmacy apps belonged

to. Age groups between 18 and 24 displayed acquaintances with Tata 1mg, NetMeds, and MedLife. Familiarity of E-Pharmacies vs Age group is shown in Table 12 and Figure 3 in tabular and clustered bar chart formats, respectively.

Table 12: Age group Vs familiarity with the e-pharmacy app					
Age group	PharmEasy	Tata 1mg	NetMeds	MedLife	Total
18-24	34	71	35	49	189
25-35	66	9	9	20	104
Total	100	90	44	69	293

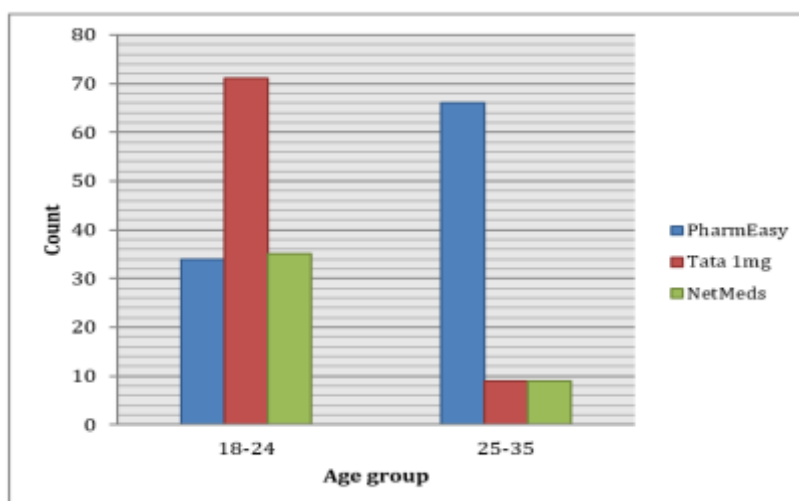
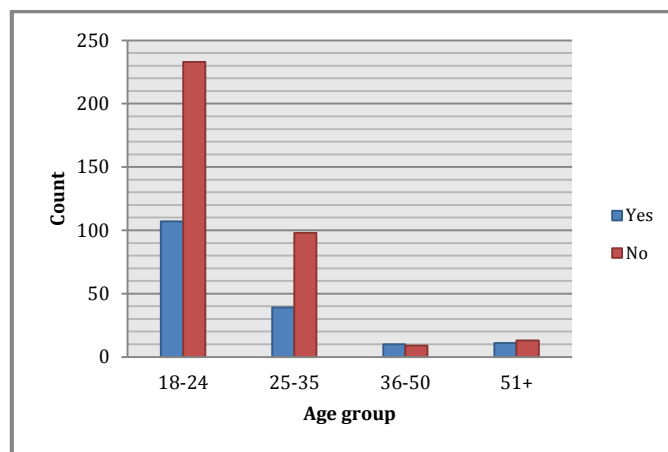


Fig 3: Age group Vs familiarity with the e-pharmacy app

### 3.11 Age Group Vs Level of Spending

Table 13: Age group Vs level of spending			
Age group	Yes	No	Total
18-24	107	233	334
25-35	39	98	141
36-50	10	9	21
51+	11	13	24
Total	167	353	520

Table 13 displayed a cross-tabulation of age groups and levels of spending growth. It was observed that most respondents in the age range of 18 to 24 chose "No." However, the age ranges of 25–35 and 51+ exhibit a similar pattern. This would imply that some survey participants still have misgivings about online pharmacies. A similar clustered bar chart is shown in Figure 4.



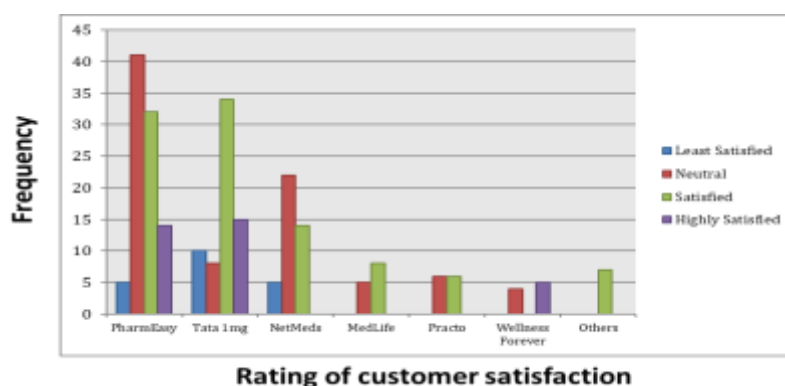
**Fig 4: Age group Vs level of spending**

### 3.12 E-pharmacy Vs Rating of customer satisfaction

Comparative analysis was done between the respondents' most-used app and each of the rating criteria. The satisfaction scale was displayed in Tables 14, 15, 16, 17, 18, 19, and 20,

matched to the app they use the most frequently. The same bar chart is displayed in a clustered form in Figures 5, 6, 7, 8, 9, 10 and 11. This may imply that the satisfaction metrics they selected are those of the app they use the most frequently.

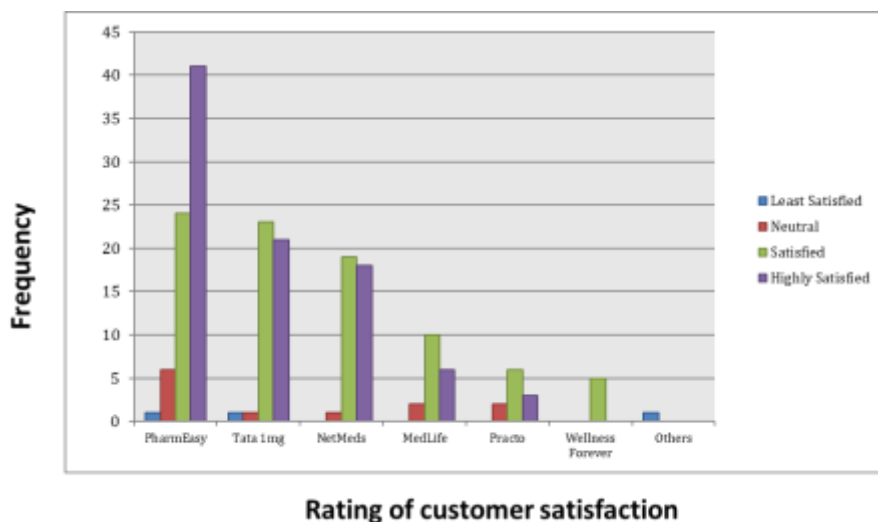
Table 14: E-pharmacy Vs Rating of customer satisfaction scale for Availability of medicines				
Customer Satisfaction Vs E-pharmacy	Least Satisfied	Neutral	Satisfied	Highly Satisfied
PharmEasy	5	41	32	14
Tata 1mg	10	8	34	15
NetMeds	5	22	14	0
MedLife	0	5	8	0
Practo	0	6	6	0
Wellness Forever	0	4	0	5
Others	0	0	7	0
Total	20	86	101	34



**Fig 5: E-pharmacy Vs Rating of customer satisfaction scale for the availability of medicines**

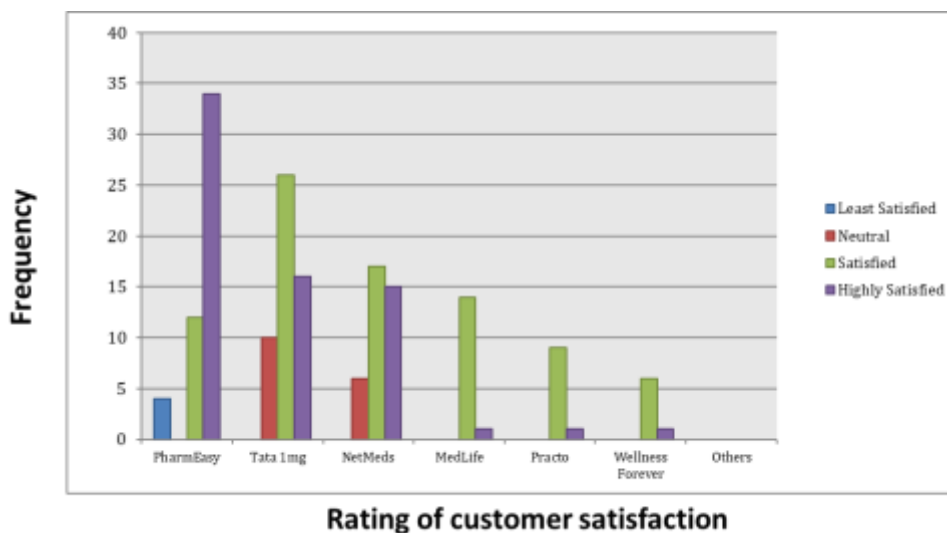
Table 15: E-pharmacy Vs Rating of customer satisfaction scale for expiry of medicines				
Customer Satisfaction Vs E-pharmacy	Least Satisfied	Neutral	Satisfied	Highly Satisfied
PharmEasy	1	6	24	41
Tata 1mg	1	1	23	21
NetMeds	0	1	19	18
MedLife	0	2	10	6
Practo	0	2	6	3
Wellness Forever	0	0	5	0
Others	1	0	0	0
Total	3	12	87	89





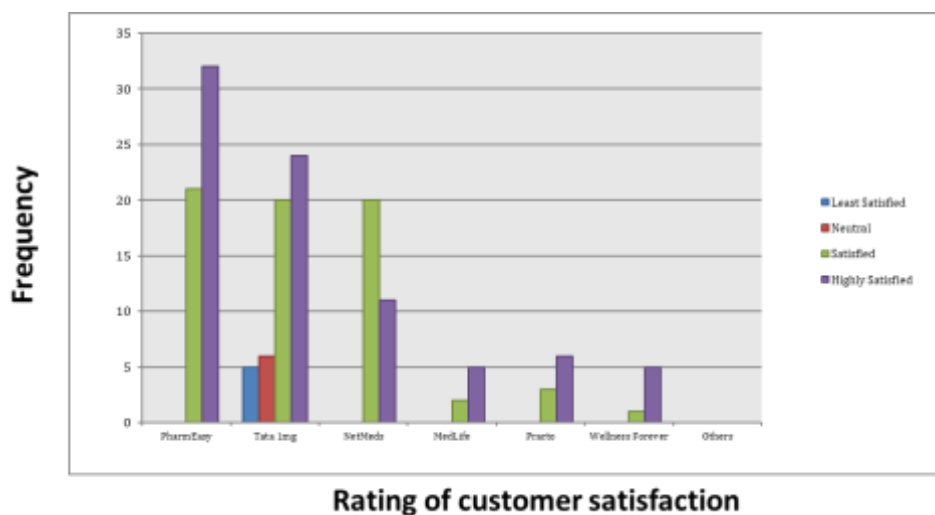
**Fig 6: E-pharmacy Vs Rating of customer satisfaction scale for rating of expiry of medicines**

Table 16: E-pharmacy Vs Rating of customer scale for timely delivery of medicines				
Customer Satisfaction Vs E-pharmacy	Least Satisfied	Neutral	Satisfied	Highly Satisfied
PharmEasy	4	0	12	34
Tata 1mg	0	10	26	16
NetMeds	0	6	17	15
MedLife	0	0	14	1
Practo	0	0	9	1
Wellness Forever	0	0	6	1
Others	0	0	0	0
Total	4	16	84	68



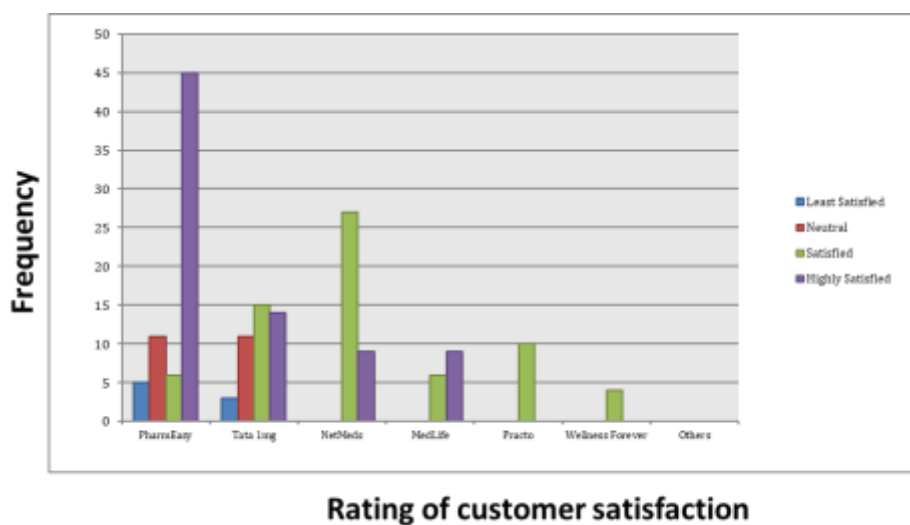
**Fig 7: E-pharmacy Vs Rating of customer satisfaction scale for timely delivery of medicines**

Table 17: E-pharmacy Vs Rating of customer satisfaction scaleContactless delivery				
Customer Satisfaction Vs E-pharmacy	Least Satisfied	Neutral	Satisfied	Highly Satisfied
PharmEasy	0	0	21	32
Tata 1mg	5	6	20	24
NetMeds	0	0	20	11
MedLife	0	0	2	5
Practo	0	0	3	6
Wellness Forever	0	0	1	5
Others	0	0	0	0
Total	5	6	67	83



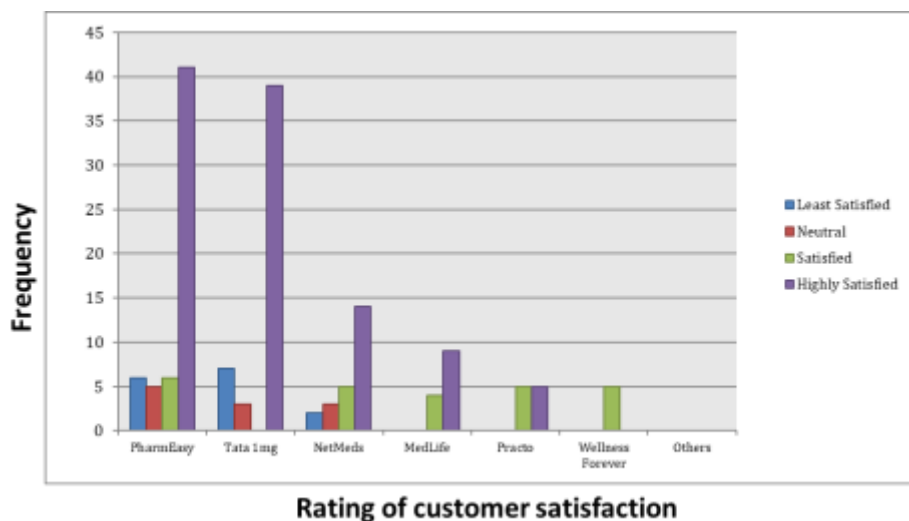
**Fig 8: E-pharmacy Vs Rating of customer satisfaction scale for Contactless delivery**

Table 18: E-pharmacy Vs Rating of customer satisfaction scale for Affordability				
Customer Satisfaction Vs E-pharmacy	Least Satisfied	Neutral	Satisfied	Highly Satisfied
PharmEasy	5	11	6	45
Tata 1mg	3	11	15	14
NetMeds	0	0	27	9
MedLife	0	0	6	9
Practo	0	0	10	0
Wellness Forever	0	0	4	0
Others	0	0	0	0
Total	8	22	68	87



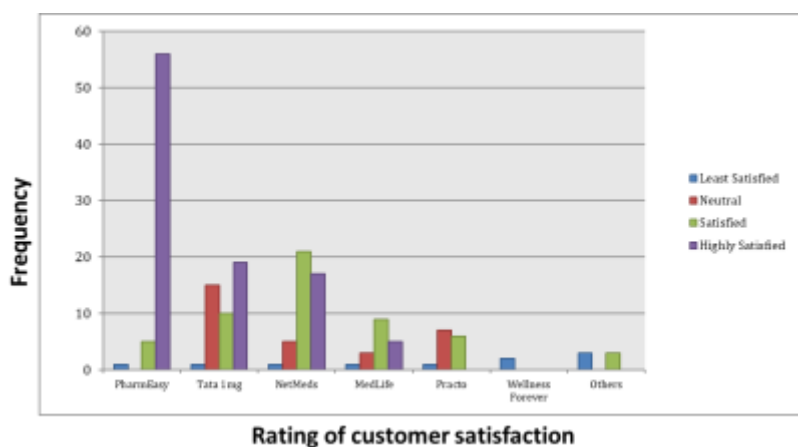
**Fig 9: E-pharmacy Vs Rating of customer satisfaction scale for Affordability**

Table 19: E-pharmacy Vs Rating of customer satisfaction scale for Multiple payment options				
Customer Satisfaction Vs E-pharmacy	Least Satisfied	Neutral	Satisfied	Highly Satisfied
PharmEasy	6	5	6	41
Tata 1mg	7	3	0	39
NetMeds	2	3	5	14
MedLife	0	0	4	9
Practo	0	0	5	5
Wellness Forever	0	0	5	0
Others	0	0	0	0
Total	15	11	25	108



**Fig 10: E-pharmacy Vs Rating of customer satisfaction scale for Multiple payment options**

Table 20: E-pharmacy Vs Rating of customer satisfaction scale for Customer service				
Customer Satisfaction Vs E - Pharmacy	Least Satisfied	Neutral	Satisfied	Highly Satisfied
PharmEasy	1	0	5	56
Tata 1mg	1	15	10	19
NetMeds	1	5	21	17
MedLife	1	3	9	5
Practo	1	7	6	0
Wellness Forever	2	0	0	0
Others	3	0	3	0
Total	10	30	54	97



**Fig 11: E-pharmacy Vs Rating of customer satisfaction scale for Customer service**

### 3.13 Age Group Vs Different Types of Medicine

It was observed which age group of respondents decided if they purchased homoeopathic, over-the-counter, and prescription medications online, offline, or both. The cross-tabulation of the abovementioned categories of medications was displayed in Tables 21, 22, 23, and 24. Figures 12, 13, 14,

and 15 showed the same clustered bar graph. In the case of generic medications, it was discovered that respondents between the ages of 18 and 24 were more likely to select "Offline." In the age range of 18 to 24, there was a striking disparity in the use of prescription drugs. Here too, the implications of gradual trust-building are clear.

Table 21: Age group Vs General Medicines				
Age group (in Years)	Online	Offline	Both	Total
18-24	133	156	45	334
25-35	54	84	3	141
36-50	10	10	1	21
51+	4	20	0	24
Total	201	270	49	520

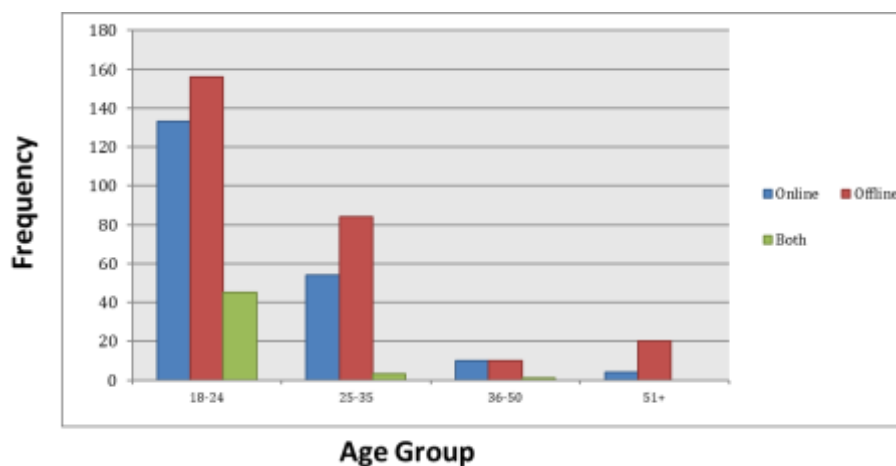


Fig 12: Age group Vs General Medicines

Table 22: Age group Vs Prescription Medicines				
Age group	Online	Offline	Both	Total
18-24	84	232	20	334
25-35	46	95	0	141
36-50	9	10	0	21
51+	6	18	0	24
Total	145	355	20	520

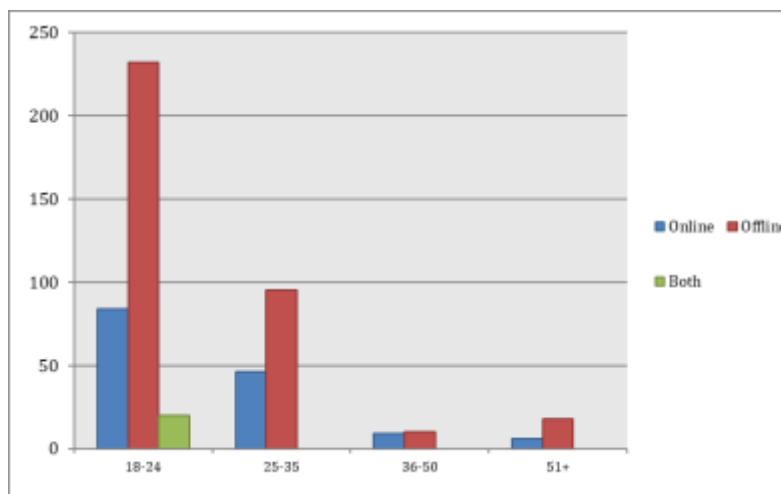
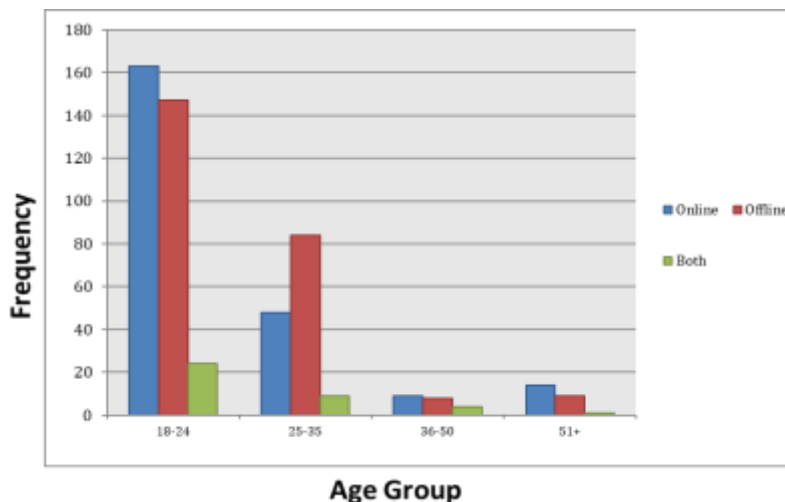


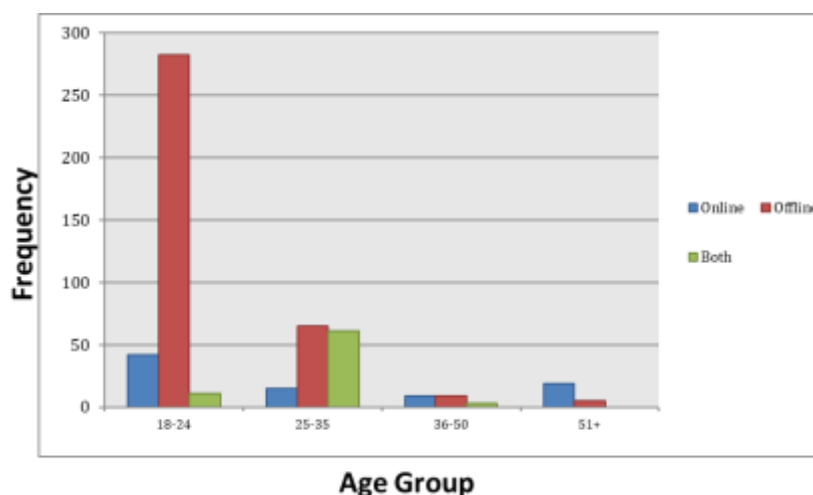
Fig 13: Age group Vs Prescription Medicines

Table 23: Age group Vs Vitamins and Other Supplements				
Age group	Online	Offline	Both	Total
18-24	163	147	24	334
25-35	48	84	9	141
36-50	9	8	4	21
51+	14	9	1	24
Total	234	248	38	520



**Fig 14: Age group Vs Vitamins and Other Supplements**

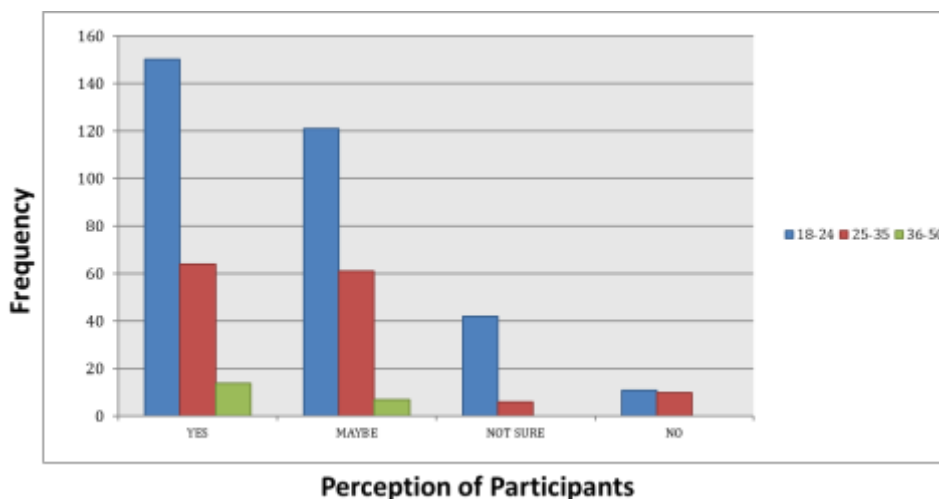
Table 24: Age group Vs Homeopathic medicines				
Age group	Online	Offline	Both	Total
18-24	42	282	11	334
25-35	15	65	61	141
36-50	9	9	3	21
51+	19	5	0	24
Total	87	358	75	520



**Fig 15: Age group Vs Homeopathic medicines**

### 3.14 Age Group Vs Use of E-Pharmacy in the Next Few Years

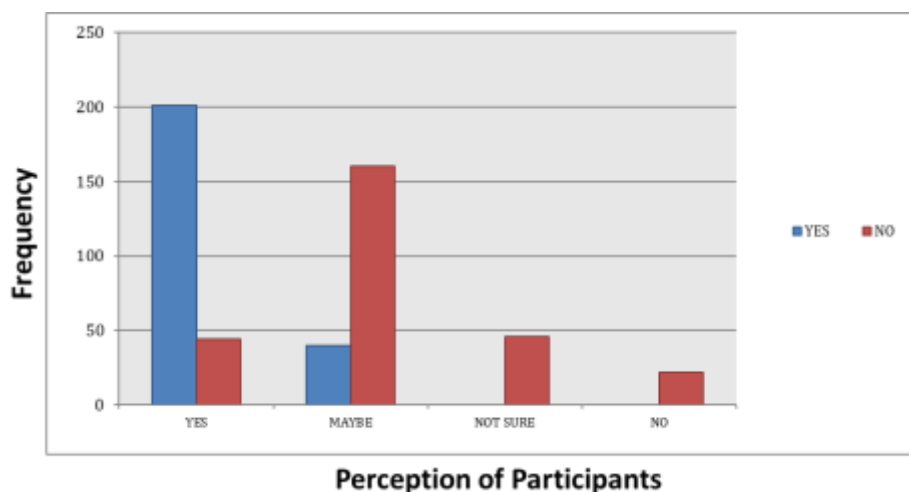
It also identified which age groups will use e-pharmacies the most in the future. The 18 to 24 were found to have the most significant percentage of "Yes" responses. The "Maybe" option also reflects this. The clustered bar chart for the same is shown in Figure 16.



**Fig 16: Age group Vs use of e-pharmacy in the next few years**

### 3.15 Online Medicine Buying Vs Use of E-Pharmacy in the Next Few Years

A graph was made to show how people who chose "Yes" to using e-pharmacies in the future compared to those who chose "No." The identical clustered bar chart is seen in Figure 17. Those who said "Yes" to the first question also



**Fig 17: Online Medicine Buying Vs Use of e-Pharmacy in the next few years**

## 4. DISCUSSION

The significant findings of the study are mentioned in the section. Most consumers are influenced by contactless delivery and the ease of ordering medications online. People opted to purchase medications offline than increase their expenditure on online pharmacies. This may indicate that while trust is slowly being built, customers are moving away from traditional pharmacies and toward online pharmacies. Due to the pandemic and subsequent lockdown, people were forced to keep their distance from one another to prevent or slow the spread of the virus. As a result, most respondents chose contactless delivery after learning that e-pharmacies allow delivery without coming into contact with people. The development of COVID-19 has dramatically altered current business patterns and demands. People are more interested in goods and services provided without interacting with another person directly. The vast majority of merchandise from online pharmacies is shipped using contactless delivery. This study discovered that one of the most important factors persuading a consumer to purchase medication from an online pharmacy is the contactless delivery of medications. Most respondents are content with

the ease of access to medications online. The 18 to 24 age bracket is where most users of various e-pharmacy sites are familiar. Since this generation is more digitally oriented than previous ones and will continue to utilize e-pharmacy in the future, there has been an increase in usage and awareness of these applications. To build lasting relationships and comprehend client loyalty, businesses and marketplaces need to be aware of the importance of customer happiness. The majority of customers were found to be satisfied with e-pharmacies compared to traditional pharmacies because of their offers and savings, home delivery and product availability, and convenience. Comparing offline and internet pharmacies, the buying patterns for general medicine, prescriptions, homoeopathy, vitamins, and other supplements were more prevalent in the former. Here too, the implications of gradual trust-building are clear. The top 5 benefits of ordering prescription drugs online are time savings, deals and discounts, contactless payment options, reduced prices, and home delivery. Because they were aware of various applications, most consumers chose more than one option. The most popular applications, however, were PharmEasy, Tata 1mg, and NetMeds. In terms of factors like medication accessibility,

contactless delivery, on-time delivery, and convenience, PharmEasy and Tata 1mg received the most excellent ratings.

#### 4.1 Limitations of the study

There are a few restrictions in the current study, including 520 respondents made up the study's sample size, which may not accurately represent all of India's citizens. In addition, respondents can organize their answers under their preferences when responding to the questions. However, because they were cautious about answering some questions, respondents might have given only some information. This could be a significant roadblock in a research endeavour.

#### 5. CONCLUSION

E-pharmacy is an innovative and alluring business idea with the potential to improve the healthcare system in India. Intending to enhance medicinal supplies across the nation, e-pharmacies entered the Indian market. The COVID-19 outbreak made drug purchases through online pharmacies easier. As a result, the e-pharmacy business model is

becoming more and more popular with customers because of several benefits like cost savings, effective customer relationship management, contactless doorstep delivery, and so on. The study aims to understand better consumer perceptions of online pharmacies, particularly whether or not consumers will switch to them in the future. The results of this study show that, albeit gradually, consumers who shop at online pharmacies are changing their buying behaviours.

#### 6. AUTHOR CONTRIBUTION STATEMENT

Mukesh Kumar Kumawat - He designed the study, verified the methodologies, Questionnaire preparation, data collection and analysis. Author the final version of the manuscript. Jatin Gupta - Questionnaire preparation, data collection and analysis, Drafting and revising the manuscript. Manoj Kumar Sharma - Drafting and revision of the manuscript. The finished manuscript has been read and approved by all authors

#### 7. CONFLICT OF INTEREST

Conflict of interest declared none.

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