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Factors Influencing People to Purchase Medicines Online

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Abstract

The Internet has revolutionized the way in which ordinary people carry out their day to day needs. E-shopping acts as a platform where shoppers can visit web stores at their own convenience. In this growing field of E-business, people can pay bills, order various products from a vast range of options, manage investments, and acquire information on an infinite number of topics online. It is not surprising that healthcare industry would seize this opportunity to modernize a common platform for purchase of medicines online. Nor is it surprising that healthcare industry has integrated itself to become a part of this innovation. Many internet pharmacies deliver medicines to the door-step offering privacy that often lacks in a traditional pharmacy when it comes to efficient and care free treatment of insomnia and anxiety. This research paper has used Qualitative research method to study the impact of factors that influence consumers to buy medicines online based on online shopping parameters like age, accessibility, satisfaction, ease of buying prescription-required medicines, privacy, future purchase intention and frequency of purchase. This research included 3 sub-groups: College students, working professionals and elderly people. The data was collected from these sub groups through Questionnaires in an attempt to understand what factors influence online purchase of medicines.

Keywords: *E-pharmacy, Healthcare, Internet, Purchase, Behavior*

1 Introduction:

Any mode of business that takes place online is termed as e-commerce, and the online buying and selling business of medicines and other pharmaceutical items is known as E-pharmacy. Online pharmacies have always been a part of the retail industry. Around worldwide, there have been several internet pharmacies established. However, in India, the conception of online pharmacy is still new and booming. These pharmacies sell both prescription and non-prescription medications.

In many countries, online pharmacies are given specific operating license to function legitimately. During the period of 2010-15, there were a few controversies with regards to e-pharmacies in India. Several issues were raised such as whether e-pharmacies in India are legal or not, can medicines be sold without showing a doctor's prescription, and presence of internet/cyber physicians on some sites.

Growth Driver for E-pharmacy: Even though E-pharmacy is new in India, it is very likely to become a very large industry segment in the coming future. Consumer behavior is changing rapidly. Internet is penetrating in the rural areas with the availability of smart phones. These are some major driving forces for E-pharmacies in India.

As we know Indian pharmaceutical market is expected to grow in the coming years. In such a scenario, the major growth driver factor is the popularization of non-life insurance including health insurance. Gross direct premium from healthcare Insurance reached Rs. 378.97 Billion in 2018 and its contribution to the gross direct premiums of Non- Life Insurance companies was 25.2 percent in India [1]. During the periods of 2015-2018, some E-pharmacies were selling quality medicines at reduced prices to patients to

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boost their business while some were involved in certain questionable dealings and practices for profit-making. Through an electronic prescription, doctors could prescribe medicines to patients, but the real question was whether such prescriptions can be dispensed from both physical (bricks and mortar) and E-pharmacies or from a physical pharmacy only? Even with such propensity of serious issues, The Drugs and Cosmetics Act could not differentiate online and offline pharmacies. Till 2018, Indian laws were completely silent on the functioning of E-pharmacies.

But as E-pharmacy is still new in India, the knowledge on how people perceive this and how they are responding to this new concept is still limited. For any business to nurture and succeed, customer relation and customer satisfaction are very important. It is important to know what particular factors are actually influencing customers to buy the products online. In India, there are about eighty online pharmacies in India [2]. A few are struggling, where as a few are booming. Some of the major existing e-pharmacies in India include 1MG, Netmeds, Bookmeds, mChemist, Medidart, Medlife, Medstar, Bigchemist, Pharmeasy, and Savemymeds. Along with this, traditional pharmacies such as Apollo and Medplus have also started online business in India.

There are several potential threats of buying medicines online, however there are advantages too. For example- Procuring medicines through the Internet is simple and handy when compared to traveling to a conventional pharmacy. At times of emergencies, medicines can be ordered and delivered to the doorstep at any time required. This saves time and stress. Online pharmacies are appealing popular to those who want to keep their medical conditions private, and who want to avoid human interaction as much as possible. This research is designed in such a way as to gain in-depth understanding of what kind of internal and external factors influence which age group of people to buy medicines online

2 Literature Review

Much research has been done on the regulatory bodies that control the E-pharmacies in India [3]. Researchers have explored how different regulatory bodies were responsible for the set up of online pharmacies in India in 2018. 2018 was an important year for online pharmacies as many regulations came into effect the same year. It was mandated by the authorities that all the details regarding the E-pharmacy such as its registration and license, its constitutional structure like ownership (proprietorship, partnership, company) and names of persons having membership in management, details of logistic services, return policy of dispensed medicines, name of registered pharmacist who validates the prescription, procedure for lodging grievances, contact details of E-pharmacy with phone and mobile numbers, etc have to displayed on the e-portal of the pharmacy. Along with this, information about the medicines should also be available on the e-portal. The e-pharmacy has to verify the prescription received with respect to the details of patient and prescriber.

Researchers have focused on the issue of availability of medicines in public sector [4]. Even though medicines have been made affordable to general public, they have not been available as of yet. They suggested that on-call pharmacists be made available to ensure validity of prescriptions as well as counsel e-pharmacy customers during drug purchase.

Online Pharmacy has been reviewed as a subject to understand the various advantages and disadvantages that are present in this mode of business [5]. This was done from both customer's and seller's point of view to understand several pros and cons associated with E-pharmacy. Many advantages of online pharmacy were discussed such as access to drugs for the disabled or people who cannot get out of their homes, 24 hours access, and availability of unlimited products, relative privacy, affordable prices and much more.

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However, along with this, there are several disadvantages that are associated with this industry such as lack of meaningful interaction with physician and pharmacists, quality, legitimacy, identification of counterfeit or illegal drugs, misdiagnosis and inappropriate use of medicines, etc. They concluded that even thought consumers found E-pharmacy to be more reliable than local pharmacy in remote areas; all pharmacies should be aimed to establish rules and regulation like upload of scanned prescriptions. Not only these pharmacies, but even patients should be aware on use of prescription medications. Several countries follow their own design of the pharmacy system. It would be good to adopt the plans and programs of leading countries to design and develop the e-pharmacy system in India.

3 Research Methedology

Data collection: A blend of secondary research and primary research was used to collect data from the respondents. After a thorough understanding of the subject from secondary sources such as journals, reviews and websites, the research tool was developed for primary data collection including 'Questionnaire', which was administered on the identified target audiences. The questionnaire has been shaped on five point Likert scales.

Contents of survey questionnaire: The questionnaire for the survey contained three sections [6]. Demographic information such as age, gender and education level was assessed in the first section. The aim of second section was to assess the respondents about their internet usage and frequency of purchase of medicines online. Section three focused on the core part of the survey that aimed to assess the respondent's willingness to purchase medicines online, their acquaintance and awareness towards the use of online pharmacy services, various advantages and disadvantages. Over all, the purpose of the survey was to understand different factors that influence consumers to purchase medicines online based on different shopping parameters.

Sample Design: Random Sampling was used to collect data from the respondents. This research included 3 sub-groups: College students, working professionals and elderly people.

Sample Size: Size of 100 respondents was taken for the collection of the data.

Dependent and Independent Variables

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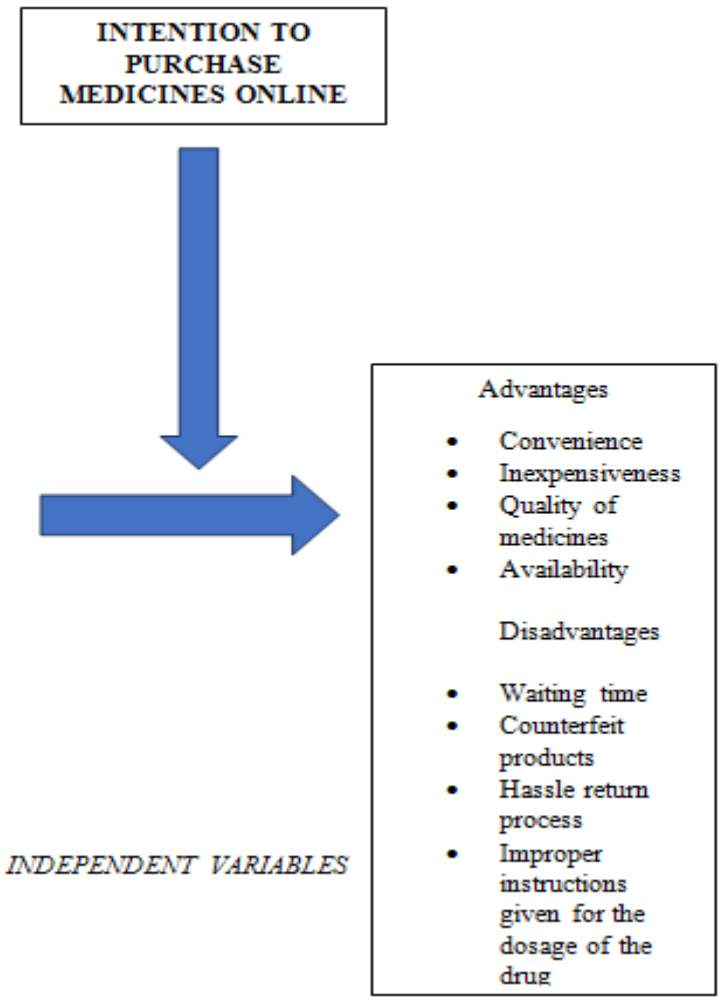

4 Analysıs And Interpretatıon

To analyze the data obtained from the survey, correlation, a type of non-experimental research method has been used. The statistical relationship between independent variables and dependent variable has been measured and assessed to find out the influence of one on another. Now, for the purpose of establishing the strength of the relationship between two variables, Karl Pearson correlation coefficient was used. This measure is between -1 and +1 such that positive correlation occurs when the value is close to +1, and a negative correlation occurs when to value is close to -1. When the value is 0, there is no relationship between the variables at all. All the independent variables (advantages and disadvantages) were correlated against the intention of purchasing medicines online in the future to obtain Karl Pearson coefficient for each that explains the relation between the two. Linear regression was also run between the independent variables and the dependent variable to find out if the data can help predict the future buying behavior.

Limitations

• For the customer's reliable analysis, the sample size is small.

• Some respondents may have provided biased responses which may have an effect on the study findings.

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• Because of the limited sample size, it is difficult to define important consumer relationships.

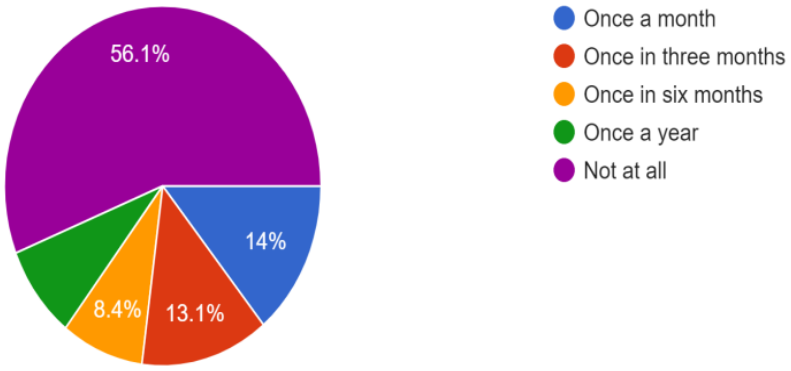
5 Results And Discussions

Table I: Regression Analysis for Demographic factors

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	2.431217349	0.50254556	4.837805	4.88281E-06
Age	-0.01270513	0.010840646	-1.17199	0.244042353
Gender	0.266517452	0.252461795	1.055674	0.293712576
Highest Level of Education	0.388628251	0.174405067	2.228308	0.028145804

Table I reveals that p value for highest level of education is lower than 0.05, hence it is considered to have a significant effect on the larger population. The p values for age and gender are not significant. This could prove that level of education creates a huge impact on people purchasing medicines online. This can be understood from many small details such as people who are above 50 are generally not very educated. They have a different fixed mindset such that they would not want to use mobile devices to place an order. They would prefer going in person and purchasing medicines instead of buying it online.

Figure 1: How frequently do you purchase medicines online?



From the research conducted, figure 1 shows that out of 100 respondents, the majority of respondents with 56.1 percent didn't order medicines online at all while 14% percent of respondents preferred to order once a month, 13.1% percent of respondents orders once in three months and finally 8.4% percent preferred to order once in six months.

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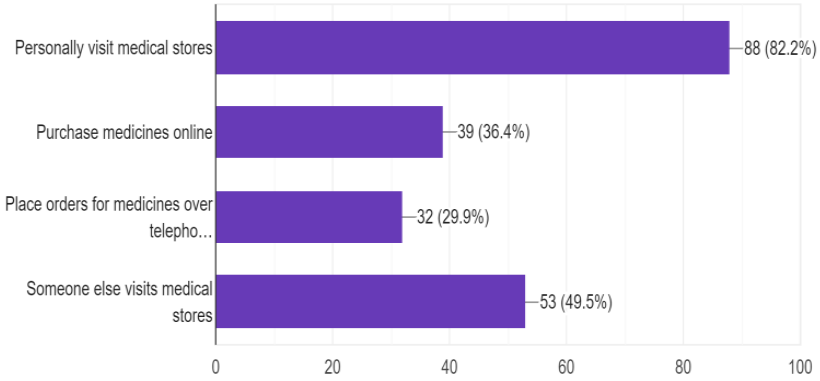
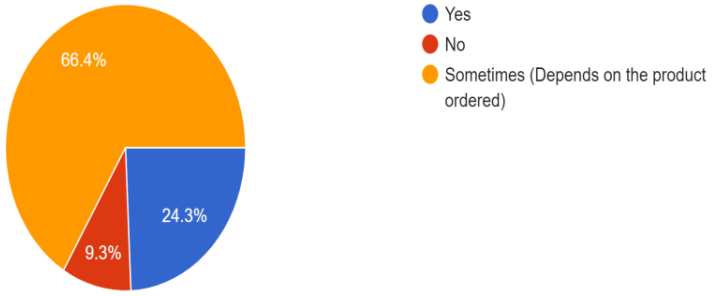
Figure 2: What are the available sources of purchasing medicines?



When consumers were asked the available sources of buying medicines, 81.7% of them said that personally visiting medical stores is one of the most available options, followed by someone else visiting the stores. Only 35.6% of them have the option of purchasing medicines online.

Figure 3: Does the online pharmacy ask you to provide a prescription?



As we can see in the above pie chart, 66.4% of respondenets who purchase medicines online say that they are asked to provide prescription based on the drug or product that is being ordered by them while only 9.3% of them say that prescriptions are not required at all.

Correlation analysis among variables

In order to identify the correlations between the six given variables: Convenience, Quality, Inexpensiveness, Availability, Complete Description, and Timely Delivery, Karl Pearson coefficients were used. The data was obtained on a five point Likert scale. The score was further used in correlation analysis. To avoid multi-collinearity, the coefficient value (r) should never go beyond 0.80. In the analysis, all the important variables significantly correlated with the dependent variables.

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Hypothesis for the study:

H1- There is no relationship between convenience and future purchase of medicines online.

Table II: Correlation Analysis (Convenience)

	Convenience	*Future Purchase*
Convenience	1	
Future Purchase	**0.349025167**	1

From Table II, it is observed that for the relationship between convenience and future purchase, thevalue for Pearson's coefficient of correlation is 0.34. This indicates the existence of a positive relationship between these two variables. Hence, the null hypothesis H1 is rejected.

H2- There is no relationship between quality and future purchase of medicines online.

Table III: Correlation Analysis (Quality)

	Quality	*Future Purchase*
Quality	1	
Future Purchase	**0.354389188**	1

From Table III, it is observed that for the relationship between quality and future purchase, thevalue for Pearson's coefficient of correlation is 0.35. This indicates the existence of a positive relationship between these two variables. Hence, the null hypothesis H2 is rejected.

H3- There is no relationship between inexpensiveness and future purchase of medicines online.

Table IV: Correlation Analysis (Inexpensiveness)

	Inexpensiveness	*Future Purchase*
Inexpensiveness	1	
Future Purchase	**0.455640551**	1

From Table IV, it is observed that for the relationship between inexpensiveness and future purchase, thevalue for Pearson's coefficient of correlation is 0.45. This indicates the existence of a positive relationship between these two variables. Hence, the null hypothesis H3 is rejected.

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H4- There is no relationship between availability and future purchase of medicines online.

Table V: Correlation Analysis (Availability)

	Availability	*Future Purchase*
Availability	1	
Future Purchase	**0.312686819**	1

From Table V, it is observed that for the relationship between availability and future purchase, thevalue for Pearson's coefficient of correlation is 0.31. This indicates the existence of a positive relationship between these two variables. Hence, the null hypothesis H4 is rejected.

H5- There is no relationship between late delivery and future purchase of medicines online.

Table VI: Correlation Analysis (Waiting time for the delivery**)**

	Late Delivery	*Future Purchase*
Late Delivery	1	
Future Purchase	**0.096561144**	1

From Table VI, it is observed that for the relationship between waiting time for the delivery and future purchase, thevalue for Pearson's coefficient of correlation is 0.09. This indicates the existence of a positive relationship between these two variables. Hence, the null hypothesis H7 is rejected.

H6- There is no relationship between counterfeit drugs and future purchase of medicines online.

Table VII: Correlation Analysis (Counterfeit Drugs)

	Counterfeit	*Future Purchase*
Counterfeit	1	
Future Purchase	**-0.072846598**	1

From Table VII, it is observed that for the relationship between counterfeit medicines and future purchase, thevalue for Pearson's coefficient of correlation is -0.07. This indicates the existence of a negative relationship between these variables. Hence, the null hypothesis H8 is rejected.

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H7- There is no relationship between hassle return and future purchase of medicines online.

Table VIII: Correlation Analysis (Hassle Return)

	Return hassle	*Future Purchase*
Return hassle	1	
Future Purchase	**0.079342199**	1

From Table VIII, it is observed that for the relationship between return hassle and future purchase, thevalue for Pearson's coefficient of correlation is 0.07. This indicates the existence of a positive relationship between these two variables. Hence, the null hypothesis H9 is rejected.

H8- There is no relationship between any instructions and future purchase of medicines online.

Table IX: Correlation Analysis (Instructions)

	No instructions	*Future Purchase*
No instructions	1	
Future Purchase	**0.088439804**	1

From Table IX, it is observed that for the relationship between absence of instructions for usage/dosage and future purchase, thevalue for Pearson's coefficient of correlation is 0.08. This indicates the existence of a positive relationship between these two variables. Hence, the null hypothesis H10 is rejected.

Table X: Multiple Regressions among variables

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	-0.27201	0.81192	-0.33502	0.73837
Convenience	0.18523	0.13342	1.38833	0.03684
Quality	0.14992	0.15443	0.97078	0.33422
Inexpensive	0.42991	0.15421	2.78779	0.00646
Availability	0.16430	0.15767	1.04202	0.30015
Late Delivery	0.17522	0.12781	1.37086	0.17378
Counterfeit	-0.11966	0.13558	-0.88257	0.37979
Return hassle	0.04965	0.14330	0.34648	0.72977

In order to test the hypothesis relationship between independent variables and dependent variable, multiple regression analysis was performed. The p value helps in establishing the statistical significance of the relationships between the variables at a larger population. It tests the null hypothesis of the variables to conclude if there is any correlation between the independent variable and dependent variable. If there is no correlation or the null hypothesis is not rejected, there is enough evidence to conclude that

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these variables have an effect at a larger population. Table X reveals that only two independent variables have p values less than 0.05: Inexpensiveness and Convenience. This explains that these two factors have an effect at larger population too as the p values for these are significant [7].

6 Fındıngs

Research has several findings:

- Factor that influences the buying pattern of the consumers is Inexpensiveness.
- Customers do not purchase medicines because they think there are high chances or receiving a counterfeit product
- Netmeds is the key dominant operator of online medicines services.
- Most of the online pharmacies ask shoppers to provide prescription based on the product ordered

7 Conclusıon

It can be concluded that inexpensiveness is the major factor that influences the purchase of medicines online as it has the highest coefficient value of 0.45 (Table IV). This establishes that majority of the respondents considered purchasing medicines online to be inexpensive when compared to buying it from a physical store. Similarly, among disadvantages, the coefficient value (r) is negative for only one independent variable i.e. Counterfeit (Table IX). This explains that there is a negative correlation between "counterfeit" and "Future Purchase", which means that as the presence of counterfeit drugs increases, people are less likely to purchase medicines online. The other three variables (waiting time for delivery, absence of instructions to use the medicine, and issues faced with return) show positive correlation against the dependent variable, which establishes that these are not disadvantages to online shoppers of medicines and do not have much effect on the purchase decisions.

Looking at the current scenario of physical pharmacies, most of these pharmacies deliver medicines to the doorstep of the consumers, and even if they don't, almost every consumer has easy access to the pharmacy as it nearbyto their place of residence. According to the survey data obtained, Netmeds [8] is the clear winner in the E-pharmacy industry in India. Most of these pharmacies ask online shoppers to provide prescription based on the products that are being ordered online. In lieu with this, regulations that were imposed on these E-pharmacies for the same are being followed. Most of the shoppers reveal that if the regulations that were imposed on these pharmacies are known to them, they would increase the purchase of medicines online.

8 Future Scope

This study has identified the major influencing factors that affect consumers to purchase medicines online. The study has focused on various advantages and disadvantages that have been used as variables. The future researchers can identify the satisfaction level and also the impact of E-pharmacy in economic terms towards the growth of the economy [8]. The future researchers can study the impact of regulations on these E-pharmacies and how such regulations will affect consumers to shop online.

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