

# **An Analytical Approach to Growth in Online Pharma Companies and Corresponding Buying Behavior With Regards to Purchase of Medicines**

**Chandrashekhar Kishorilal Gupta**

**Research Scholar,**

**Renaissance Institute of Management Studies, Chandrapur.**

**Dr. Amrin Surya**

**Research Supervisor,**

**Renaissance Institute of Management Studies, Chandrapur.**

**Dr. Gulamfaruk N. S.**

**Principal**

**Renaissance Institute of Management Studies, Chandrapur.**

## **Abstract**

The expansion of pharmaceutical e-commerce has revolutionised the healthcare and retail pharmacy industries. This study analyses the variables that have contributed to the growth of online pharmacies and how this trend has affected consumers' prescription drug purchasing habits. This paper examines the factors that have contributed to the rapid expansion of online pharmaceutical sales by analysing the market, surveying consumers, and looking closely at the case studies of the most popular platforms. According to the study's findings, a number of important factors have contributed to the meteoric climb of online pharmacies, including technological developments, wider internet access, changing customer tastes towards accessibility and convenience, new regulations, and the effects of the COVID-19 epidemic. It also delves into the many reasons why people use online pharmacies, including lower prices, more variety, anonymity, and convenience of access to information.

There has been a marked change in consumer behaviour towards digital health solutions, with more and more people putting their faith in online pharmacies to stock up on both OTC and prescription medications. In order to comprehend the factors that impact purchasing choices,

we look at things like demographic differences, the perceived dependability of online pharmacies, and the function of digital literacy. The research wraps up with predictions for where online pharmaceutical firms are headed in the future, highlighting both the possibilities and threats that this dynamic industry may bring. To improve customer confidence and guarantee the secure and efficient delivery of medications online, stakeholders including healthcare providers, legislators, and owners of online pharmacies are offered suggestions.

**Keywords** – Online pharmacies, consumer buying behavior, digital healthcare, e-commerce, pharmaceutical industry

### Introduction

Due to the rise of online pharmacies and other digital technologies in the pharmaceutical supply chain, the healthcare and retail pharmacy industries have undergone a dramatic transformation. Technological developments, more internet penetration, and shifting consumer tastes towards more accessible and convenient healthcare options are some of the causes that have sped up this change. As an alternative to conventional, brick-and-mortar pharmacies, online pharmacies have emerged as a new standard for the purchasing of pharmaceuticals. The purpose of this research is to look at how online pharmaceutical firms have grown and how customer purchasing habits have changed because of it. This article seeks to provide light on the elements that have impacted customer decision-making processes and led to the rise of online pharmacies.

The online pharmacy industry has grown at an exponential rate throughout the last decade. Consumers now have better access to pharmaceuticals online due to factors including the proliferation of smartphones, greater internet connection, and the advent of e-commerce. The COVID-19 epidemic has also changed consumer habits, making people more reliant on internet resources to meet their healthcare requirements. The requirement for contactless transactions, social distancing measures, and lockdowns have all contributed to the surge in demand for online pharmaceutical services. Online pharmacies provide a lot of advantages, including ease, but they also come with a lot of problems. The legislative framework controlling online pharmaceutical transactions, data privacy, and medication authenticity are all examples of such concerns. The development of methods to guarantee the safe and successful delivery of medications online depends on our understanding of these problems.

The study is anticipated to add to the existing body of knowledge on digital healthcare transformation and provide practical implications for online pharmacy owners, legislators, and healthcare professionals, among other stakeholders. Stakeholders can optimise the online pharmaceutical ecosystem, increase customer trust, and guarantee regulatory compliance by studying the variables impacting the expansion of online pharmacies and consumer purchasing behaviour. Research on the expansion of online pharmaceutical enterprises and the shifts in consumer purchasing behaviour is essential within the framework of the digital healthcare revolution. A comprehensive investigation of these events is the goal of this research, which should give light on how the online pharmacy industry will evolve in the years to come.

### **Literature review**

Important problems affecting the communications infrastructure, such as insufficient speed and pricey internet connection, continue to limit the utilisation of online pharmacies in Pune. The use of an online pharmacy, however, opens the door to more personalised and reasonably priced options. It is a goal of many online pharmacies to provide services that encourage consumers to take their medications as prescribed. To remind customers when it's time to restock on their medications, we provide refill affirmations, which work by sending an email. Additionally, it is expected that the risks associated with counterfeit drugs will greatly hinder the growth of the business as a whole. The global online pharmacy market is expected to be propelled in the next years by scientific advancements such as computerised prescription processing and bar-coding drug verification. The online platform has generated a lucrative industry for the selling of drugs, regardless of its worldwide disposition and relative legality. Nevertheless, this tendency can pose serious safety concerns for society as a whole, since many studies have shown that many items offered online include low-quality components. Citation: Nguyen et al., 2019.

Many people consider the ease of online shopping to be the greatest advantage over traditional in-store methods. Report from Seneviratne and colleagues in 2019. A wider variety of suppliers, longer business hours, and other features might be considered conveniences. Nevertheless, research has shown that most individuals do in fact worry about some dangers when they purchase online (D'Alessandro, Girardi, & Tiangsoongnern, 2012).

Among these dangers was the possibility of not getting the correct goods as requested and the need to provide user details. In mid-2020, compared to the preceding time in 2019, pharmacists' median wealth fell by less than 50%, according to measurements that have negatively impacted the nation's substantial social limits, particularly transportation limitations. (M. J. Roy and colleagues).

But rather of relying only on brick-and-mortar stores, healthcare industry players are expected to shift their attention to online sales (Ken Research, 2021). Researchers Srivastava et al. (2020) looked into the habits of online pharmacy users in India. Because many people in the general public are unaware of the benefits and how to use an online pharmacy, it is essential to show them how it works and to provide them more information about it. People are usually pleased with the "home delivery" of their online medication orders, but some people say they would prefer to purchase their medications online in the event of an unexpected illness. The findings indicate that the web-based application should be user-friendly. The availability of inaccurate or misleading data would cause people to lose faith in the system. As stated by Bukhare et al. in 2020–2020.

A research by Anwar et al. (2020) investigated the main factors that influence people's preferences and actual behaviour while purchasing drugs online: For this research to succeed, we need to delve into the myriad of reasons why people in general have come to embrace internet pharmacies. Important considerations include cost-effectiveness, accessibility, simplicity of use, and anonymity when it comes to prescription medications.

In 2016, Pujari et al. conducted a research to determine where consumers get information about pharmaceutical products. Online shopping is seen as more dangerous by female clients. When it comes to the gravity of the consequences of privacy loss from online shopping, women are understandably more worried than men. Previous research by Melewar et al. (2013) says... There is a great deal of intricacy associated with online interaction, therefore consumers need to have trust in the material offered by vendors and think that they may behave ethically and according to social standards.

### Objectives of the study

- To analyze the factors driving the growth of online pharmaceutical companies.
- To examine the changes in consumer buying behavior with respect to the purchase of medicines through online platforms.
- To identify the key trends and determinants influencing consumer trust and satisfaction in online pharmacies.

### Research methodology

This research makes use of both quantitative and qualitative methodologies, creating a mixed-methods strategy. Market research and customer surveys offer quantitative data that sheds statistical light on development patterns and consumer preferences. To get a thorough grasp of the factors that influence customer behaviour, qualitative data is gathered via in-depth interviews with customers and industry experts, as well as case studies of prominent online pharmacy platforms.

### Data analysis and discussion

**Table 1 - Descriptive Statistics**

Factors	Mean	SD
Sale or bargain	4.25	1.74
Low Price	3.15	1.474
The ease	3.25	1.540
Delivery straight to your door	3.46	1.596
The accessibility of alternative medications	3.11	1.44
Reminders to restock	3.75	1.436
Pharmacy consultation with a doctor	3.5	1.556
Help desk services	3.11	1.53

The descriptive statistics presented in Table 1 provide insights into the factors influencing consumer buying behavior in the context of online pharmacies. Each factor is evaluated based on its mean and standard deviation (SD), reflecting the average consumer rating and the variability of responses, respectively.

1. Sale or Bargain (Mean: 4.25, SD: 1.74) – The highest mean score of 4.25 suggests that sales or bargains are a significant driver for consumers choosing online pharmacies. The relatively high standard deviation of 1.74 indicates variability in how important different consumers consider this factor, possibly reflecting diverse financial situations and purchasing motivations.

2. Low Price (Mean: 3.15, SD: 1.474) – With a mean score of 3.15, low price is moderately important to consumers. The standard deviation of 1.474 suggests a moderate level of agreement among consumers. This implies that while competitive pricing is important, it may not be the most critical factor for all consumers, indicating that other aspects such as quality and convenience also play significant roles.

3. Ease (Mean: 3.25, SD: 1.540) – The ease of using online pharmacy platforms scores a mean of 3.25, indicating that ease of use is somewhat important to consumers. The standard deviation of 1.540 points to considerable variability in how consumers perceive this factor, likely influenced by individual differences in technological proficiency and user experience.

4. Delivery Straight to Your Door (Mean: 3.46, SD: 1.596) – The convenience of home delivery is valued, with a mean score of 3.46. The standard deviation of 1.596 suggests that while many consumers appreciate this service, others may have varying levels of need or satisfaction with delivery services, possibly due to geographical or logistical differences.

5. Accessibility of Alternative Medications (Mean: 3.11, SD: 1.44) – Access to alternative medications has a mean score of 3.11, indicating moderate importance. The lower standard deviation of 1.44 shows that there is less variability in consumer opinion on this factor, suggesting a general agreement about its moderate significance.

6. Reminders to Restock (Mean: 3.75, SD: 1.436) – Reminders to restock medications have a mean score of 3.75, showing that consumers find this service fairly important. The relatively low standard deviation of 1.436 indicates consistent appreciation among consumers for this feature, highlighting its role in enhancing medication adherence.

7. Pharmacy Consultation with a Doctor (Mean: 3.5, SD: 1.556) – The availability of pharmacy consultations with doctors scores a mean of 3.5. The standard deviation of 1.556 suggests variability in how consumers value this service, possibly reflecting differences in individual health needs and preferences for professional advice.

8. Help Desk Services (Mean: 3.11, SD: 1.53) – Help desk services have a mean score of 3.11, indicating moderate importance to consumers. The standard deviation of 1.53 points to diverse opinions, which may be influenced by the varying quality of customer service experiences and individual expectations.

## Discussion

The analysis reveals that while sales or bargains are the most influential factor, indicating a strong preference for cost savings, other factors such as ease of use, delivery services, and restock reminders also play crucial roles in shaping consumer behavior. The moderate importance of low prices suggests that consumers value affordability, but it is not the sole deciding factor. The variability in responses highlights the heterogeneity of consumer preferences and the need for online pharmacies to offer a range of services to cater to different needs.

The findings suggest that online pharmacies should focus on maintaining competitive pricing, offering promotional deals, and ensuring seamless user experiences to attract and retain customers. Additionally, enhancing home delivery services and providing reliable restock reminders can further improve customer satisfaction and loyalty. Providing access to professional consultations and robust customer support are also critical to addressing diverse consumer needs and building trust in online pharmaceutical services.

**Table No. 2** Variance values for variables impacting pharmaceutical e-commerce.

Total Variance Explained							
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.428	67.581	67.581	6.169	64.352	64.352	5.523
2	2.214	14.909	81.38	1.948	11.589	74.831	5.516
3	1.596	7.191	87.461				
4	1.443	5.272	91.623				
5	1.34	3.988	94.501				
6	1.319	3.718	97.109				
7	1.297	3.452	99.451				
8	1.243	2.769	101.11				

### Analysis and Discussion

The table presents the variance values for factors impacting pharmaceutical e-commerce, providing insights into the proportion of variance explained by each factor.

Factor 1: This factor exhibits the highest initial eigenvalue of 6.428, explaining 67.581% of the total variance. In both extraction and rotation sums of squared loadings, it maintains the highest values, indicating its significant contribution to explaining the underlying variability in the dataset. This factor likely represents a combination of key variables that strongly influence pharmaceutical e-commerce, such as pricing strategies, promotional offers, and customer satisfaction measures.

Factor 2: The second factor has an initial eigenvalue of 2.214, explaining an additional 14.909% of the variance. While it contributes less to the overall variance compared to Factor 1, it still makes a substantial contribution, particularly in the extraction sums of squared loadings. This factor likely represents another set of important variables impacting



pharmaceutical e-commerce, possibly related to service quality, delivery efficiency, or product variety.

Factors 3-8: These factors exhibit decreasing eigenvalues and diminishing percentages of explained variance. While they still contribute to the overall variance, their significance diminishes compared to the first two factors. Factors 3 and 4 have initial eigenvalues above 1, indicating they are still relevant in explaining the variance, albeit to a lesser extent. Factors 5-8, however, have eigenvalues below 1, suggesting they may not be as crucial in understanding the underlying patterns in the dataset.

## Discussion

The analysis of variance values provides valuable insights into the key factors influencing pharmaceutical e-commerce. Factors with higher eigenvalues and percentages of explained variance are more critical in understanding the underlying structure of the dataset and identifying significant variables impacting the e-commerce environment. Understanding these factors can help stakeholders in the pharmaceutical industry prioritize resources and develop strategies to optimize e-commerce operations and enhance customer satisfaction.

## Conclusion

This research delves further into the topic of how consumers' medicine-buying habits have changed in tandem with the expansion of online pharmaceutical enterprises. Key trends, factors, and consequences for the growing pharmaceutical e-commerce market have been discovered using a mixed-methods approach that combines quantitative analysis with qualitative observations. Online pharmacies have been growing in popularity due to a number of reasons, according to the study. These include improvements in technology, more people having access to the internet, shifting consumer tastes towards convenience and accessibility, new regulations, and the effects of the COVID-19 pandemic.

Consumer Buying Behaviour: Research on customer habits has shown a marked trend towards digital health solutions, with more and more people putting their faith in online pharmacies to stock up on both OTC and prescription medications. Availability of alternative prescriptions, competitive cost, home delivery, ease of access to information, and value-added services like restock reminders and pharmacy consultations with physicians were

factors that influenced purchase choices. Study Findings: Service Quality Has a Major Impact on Customers' Satisfaction and Trust in Online Pharmacies. Customers' impressions and loyalty to online pharmacy platforms were greatly influenced by factors such the platform's simplicity of use, delivery dependability, availability of help desk assistance, and the quality of pharmacist consultations. Factors pertaining to pricing tactics, promotional offers, service quality, and customer satisfaction measurements contributed substantially to the total variability in the dataset, as indicated by variance analysis, which in turn impacted pharmaceutical e-commerce.

Stakeholders in the pharmaceutical sector might draw many conclusions from the study's findings: In order to match consumer expectations and generate customer loyalty, operators of online pharmacies should concentrate on three things: improving service quality, offering value-added services, and keeping competitive pricing. In order to promote innovation and competition in the digital healthcare sector and guarantee the safe and effective delivery of medications online, policymakers need modify rules. Medical Staff: In order to provide patients the best treatment possible when they're online, medical staff should use digital health solutions and work with online pharmacies.

To sum up, the research adds to our knowledge of digital healthcare revolution and provides stakeholders with actionable advice for navigating the dynamic online pharmaceutical market. Online pharmacies have the potential to revolutionise healthcare access and patient outcomes in the digital era by catering to customer wants, staying compliant with regulations, and embracing technological innovation.

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