

Digital Pharmacies in Focus: A Technical Exploration of Risk Perception and Subjective Norms Influencing Online Medicine Purchase Intentions in India

M Sri charan

Koneru Lakshmaiah Educational Foundation, KLEF, Vaddeswaram, Guntur- 522302,
Andhra Pradesh, India

Abstract

People's lives have grown much less complete without the integration of socializing and shopping into their routines in recent years. Several prior researches have looked at the potential dangers associated with internet purchasing as well as the beliefs held by customers. However, very few academics devoted greater attention to purchasing behaviour, particularly with regard to cross-platform purchasing behaviour of consumers. Even while customers may make direct purchases on platforms that have provided them with information, they can make purchases of the items they are targeting on other platforms. The concept of purchasing and making purchases online is now enjoying rising popularity, particularly among younger people. The aims of study are to investigate socio-demographic variables on the future intention of purchasing pharmaceutical products online, to overview Impact of psychological and socio-demographic variables on purchasing pharmaceutical products online and to identify the risk factors towards online purchase intention of medicines .The survey that was conducted for the research on risk factors regarding the desire to buy drugs online included a total of 300 sample respondents, all of whom were picked using the easy sampling random technique through the use of Google forms, the data from the respondents who were part of the sample selection were obtained.

Keywords: Online pharmacy, Online Purchase, Online pharmacy regulations, Risk perception, subjective norms

Introduction

The rapid rise in the use of high-speed internet at cheap cost utilizing mobile devices pervasively (anytime anywhere any length of time) has encouraged the online buying of a variety of physical and immaterial goods. Although the use of mobile internet devices for the purpose of making purchases of intangible commodities online is an example of an ideal business model, making purchases of physical commodities online is subject to its own set of limitations. In point of fact, utilizing the Internet to do business might facilitate easier transactions for both customers and vendors. Customers benefit from a greater reach, an easier access to information, the opportunity to compare costs, and the capacity to circumvent temporal and geographical limits thanks to the advent of the internet. Because of the nature of this kind of transaction, it is possible for the consumers and suppliers to communicate directly with one another. As a result, the importance of distributors and agents might be diminished, which would eventually lead to a reduction in the total cost of the items (Shen and Chiou, 2010)¹. The Internet might also make the procedures of providing customer support and receiving feedback simpler to complete by allowing for a quicker and more convenient transmission of consumer claims to the relevant vendors. In addition, since the internet is a worldwide medium, contact between workers and customers located in various parts of the globe is no longer hindered by geographical constraints. This creates a "frictionless" scenario for businesses. The many kinds of products involved in online transactions each have their own unique level of perceived danger. One of the most contentious categories of goods available for purchase on the internet is medication, particularly medicines. Online buyers are showing a growing interest in the practice of purchasing drugs via the use of the internet. Due to the fact that the Internet is a global and largely lawless medium, the selling of medications has found a profitable market on the internet. This industry has been made possible by the internet. However, this development may provide substantial issues to the health and safety of a society as a whole since a number of studies have shown that a considerable proportion of the items sold in online retailers

¹ Shen and Chiou, (2010). "The impact of perceived ease of use on Internet service adoption: The moderating effects of temporal distance and perceived risk". *Computers in human behavior*, Vol.26(1), pp.42-50.

include substances of a low quality (Roy et al.)². This feature raises the possibility that the pharmaceuticals being sold are fakes, have been tampered with, or include ingredients that are illegal to possess. When compared to buying in physical stores, one of the most notable benefits of using the internet to do your shopping is the increased level of convenience it provides. The expanded hours of operation, larger number of vendor options, and so on all contribute to the convenience of the business.³

On the other hand, studies have shown that people in general have a perception of risks associated with online shopping (D'Alessandro et al., 2012)⁴. These risks include the possibility of the disclosure of personal and financial information as well as the possibility of not receiving the correct product that was ordered. Therefore, a customer's choice while online buying is often dependent on a trade-off between the perceived benefits of acquiring the goods over the Internet and the hazards associated with doing so. When the degree of danger felt when shopping online was compared to the level of risk perceived while shopping in conventional shops, researchers discovered that customers reported a higher level of risk when they shopped online. However, having more experience with online shopping leads to a reduced perceived risk level throughout the process of purchasing things over the Internet, while having a greater perception of the dangers involved leads to a decreased interest in making future purchases from the Internet. The nature of the product is another factor that might affect the degree of risk that is believed to be there. The products may be divided into two broad categories: those that are related to search and those that are related to experience. Customers had an easy time judging search products (such as apparels, books, shoes, and so on) before making a purchase, but experience goods (such as cosmetics and medicines) could only be evaluated after they had been used. According to a number of studies, shoppers feel as if they are taking a greater risk when purchasing experience products as opposed to search

² Roy, Kesharwani and Bisht (2012). "The impact of trust and perceived risk on internet banking adoption in India". *International Journal of Bank Marketing*, Vol1,(2)pp.9-11.

³ Hsu.,and Bayarsaikhan (2012). "Factors influencing on online shopping attitude and intention of Mongolian consumers". *The Journal of International management studies*, Vol.7(2), pp.167- 176

⁴ D'Alessandro Girardi and Tiangsoongnern, (2012). "Perceived risk and trust as antecedents of online purchasing behavior in the USA gemstone industry". *Asia pacific journal of marketing and logistics*,pp.5-7.

goods (Ling et al.2011)⁵. This indicates that the latent or inherent risk that "experience products" hold for consumers is added to the overall risk that comes with online buying when such customers make their purchases via an online retailer. Medicaments are among the most difficult things to sell in the "experience goods" category, which is becoming more represented in online retail establishments. There has been a substantial paradigm change in the interaction mechanism between patients and the healthcare system as a result of the rise in the number of pharmaceuticals being purchased online as opposed to via the more conventional face-to-face channel.

Theoretical Framework

Internet services are presently one of the most lucrative markets. When it comes to the many different kinds of items that can be purchased online, the ones that have an effect on one's health are the ones that get the most attention⁶. Since the late 1990s, it has been widely documented that there has been growing interest in the market for internet pharmacies. At the beginning of the millennium, new research began investigating the psychological structures and factors that are connected to the act of buying pharmaceutical items via the internet.⁷The Theory of Planned Behavior and other psychological models that have addressed the research of risk perception and risk propensity both contribute to the construction of this framework. The Theory of Planned Behavior, sometimes known as TPB for short, is a model that accounts for the establishment of behavioural intentions as a foundation for understanding behaviour. This model is both inexpensive and comprehensive. It operates on the presumption that the immediate cause of behaviour is an individual's decision to participate in that activity.⁸

Customers in India are increasingly turning to online pharmacies thanks to the rapid expansion of e-commerce in the country in recent years. One of the things that is likely to

⁵ Ling, Daud, D. B., Piew, T. H., Keoy and Hassan, P. (2011). "Perceived risk, perceived technology, online trust for the online purchase intention in Malaysia". *International journal of business and management*, Vol. 6(6), pp.167-169.

⁶ Featherman and Pavlou (2003). "Predicting e-services adoption: a perceived risk facets perspective". *International Journal of Human-Computer Studies*, Vol.59 (4),pp. 451-474.

⁷ Gallagher and Colaizzi (2000). "Issues in Internet pharmacy practice. *Annals of Pharmacotherapy*", Vol.34(12), pp.1483-1485.

⁸ Singh Majumdar and Malviya (2020) "Pharmacy impacts on society and pharmacy sector in the economical pandemic situation: a review". *Journal of Drug Delivery and Therapeutics.*, Vol.10(3),pp. 335-340.

inspire a massive interest in the next days is the online pharmacy because of its convenience. A web-based business that sells medications that have been approved by a doctor is known as an online pharmacy. It is not a novel practice to offer medical products for purchase on the internet.⁹ It has only just flourished in this day and age of the internet. Soon after that, the online pharmacy was made available to customers in the UK. As of the middle of 2004, there were more than a thousand locations where medication could be purchased, according to the findings of several assessments. The local retail pharmacy has, up until this point, been the most important source of pharmaceuticals for the general Indian population. Retail medication shops, in a sense, also generate profits in rural areas and other remote parts of the country. It's possible that a significant portion of the Indian population doesn't purchase medication online because they haven't heard of the concept known as online drug shops or because they don't meet the essential requirements, such as having access to the internet. Despite this, things are now moving in a new direction. With more people becoming proficient in the use of computers, more people having access to the internet, and more people using smartphones. Despite the fact that pharmacies were permitted to remain open during the lockdown, the majority of consumers chose to purchase their medications and other pharmaceutical supplies from internet pharmacies.¹⁰

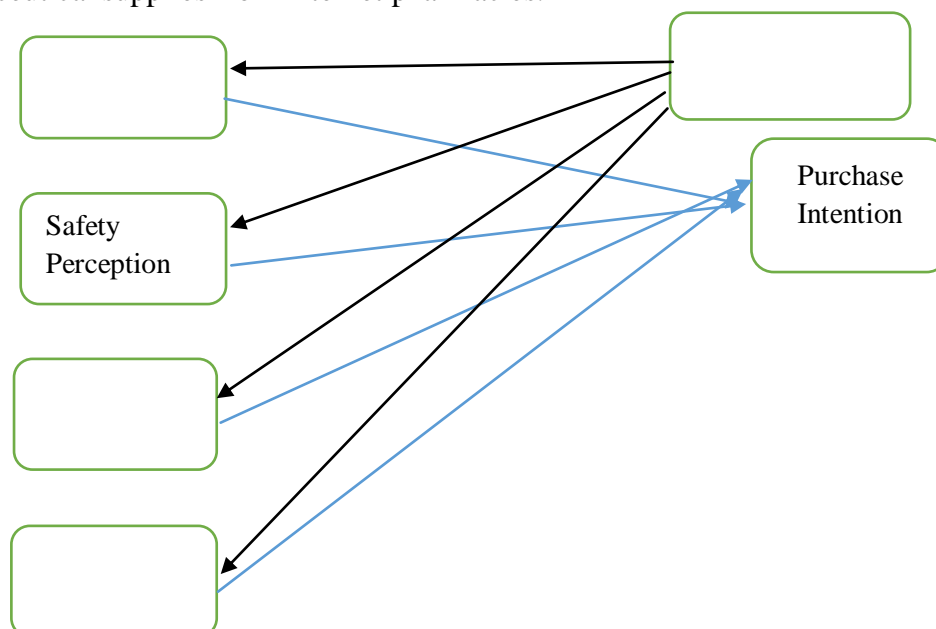


Figure 1 Conceptual Framework

⁹ Büttner, O. B., & Göritz, A. S. (2008). Perceived trustworthiness of online shops. *Journal of Consumer Behaviour: An International Research Review*, 7(1), 35-50.

¹⁰ Chordiya and Garge (2019), "E-pharmacy vs conventional pharmacy". *IJCAAP*, Vol. 3(p): 121-123.

Literature Review

Srivastava et al., (2020)¹¹ found that consumers' use and uptake of e-pharmacy in India. Lack of information about the advantages of utilizing an online pharmacy among the common people hence there is a need to show the usage and benefits of using e-pharmacies along with better training to the clients. The clients primarily enjoyed the "home delivery" of the online bought drugs and would choose to buy online in circumstances of severe sickness. The findings indicate the e-pharmacy application be straightforward to use. Availability of old and unclear information would cause a sense of distrust in the minds of the clients.

Singh et al., (2020)¹² explained that on the effects of online pharmacies on both society and the pharmaceutical industry in times of economic crisis. The effects of using an internet pharmacy when the COVID-19 epidemic was going on are the primary subject of this piece of research. The author has written on the many positive effects that e-pharmacy may have on people and their communities. The distribution of medication to all locations at prices that are reasonable is the primary goal of online pharmacies. However, self-medication is a significant issue that arises with the use of online pharmacies. As the Drug and Cosmetics Act of 1940 and the Pharmacy Act of 1948 are too antiquated and do not include any provisions for the sale of medication, the Government of India has established guidelines for the operation of online pharmacies.

Anwar et al., (2020)¹³ argued that the following are the factors that contribute to a preference for purchasing medicines online, as well as their effects on actual purchasing behaviour: The study presented in this article focuses on the numerous aspects that contribute to the widespread acceptance of online pharmacies among the general public. The cost-effectiveness, ease, accessibility to less often used drugs, and anonymity are some of the most important aspects to consider. The author has also uncovered a variety of additional variables,

¹¹ Srivastava and Raina (2020). "Consumers' usage and adoption of e-pharmacy in India". *International Journal of Pharmaceutical and Healthcare Marketing*.

¹² Singh, Majumdar and Malviya (2020) "E-Pharmacy impacts on society and pharmacy sector in the economical pandemic situation: a review. *Journal of Drug Delivery and Therapeutics*. Vol. 10(3), pp. 335-340.

¹³ Anwar and Gupta (2020) "Factors Leading to Preference for buying Online Medicines and their Effects on Actual buying Behaviour". *Zeichen Journal.*, Vol (6),pp.3-5

such as the Digital programme, an e-healthcare push by the Government of India and so on, that are contributing to the rapid expansion of the online pharmacy industry in India.

Gupta et al (2020)¹⁴ surveyed on the title entitled consumers' Purchasing Habits with Regard to Online Pharmacies In this research, a random selection approach was used to choose one hundred participants from the city of Jaipur. The research came to the conclusion that customer awareness of online pharmacies was rather high, which was one of its findings. The citizens of Jaipur city buy medication from a variety of retailers, including both online and traditional stores. However, the government and the relevant authorities have a lot of work to do in order to educate the public about the many risks that are associated with purchasing medication from an online pharmacy.

Pujari et al., (2016)¹⁵ explored that purchasing patterns of consumers in the Pharmaceutical Industry with Regard to Prescription and Over-the-Counter Drugs: The purpose of the research was to determine which kind of information individuals prefer to use while making decisions concerning pharmaceutical products. What factors impact a consumer's decision to buy a certain medicine? A total of one hundred individuals took part in the poll, which yielded some extremely intriguing findings. Only sixty percent of the population bought medication based on the recommendation of their doctor, although other considerations, such as the recommendations of family and friends, magazines, and online literature, all played a role in the decision to purchase medicine. According to the author's research, consumers prefer their prescriptions to be based on their own choice and price, and the recommendations of their pharmacists and doctors have little impact on how much money they spend.

Impact of demographic variables on purchasing pharmaceutical products online.

The intention to make a future purchase of medications online served as the dependent variable in all three of the regression analyses that were carried out¹⁶:

¹⁴ Gupta (2020) "Consumer Buying Behavior towards E-Pharmacy". *Dogo Rang sang Research Journal*, Vol (10): ISSN No: 2347-7180.

¹⁵ Pujari (2016) "Study of consumer's pharmaceutical buying behavior towards prescription and non-prescription drugs". *Journal of medical and health research*. Vol. 1(3), pp. 10-18.

¹⁶ Gupta MS. Consumer Buying Behavior towards E-Pharmacy. *Dogo Rangsang Research Journal*. 2020; Vol.(10): ISSN No: 2347-7180

1. **Subjective Norm** was the primary factor in determining the intention to make a future purchase: the greater the degree to which this behaviour is validated by other people who are significant to the participant in terms of concerns regarding health and self-care, the greater the likelihood will be that the participant will make this purchase in the future¹⁷.
2. **Safety Perception:** The second more important significant predictor of the intention to make a future purchase was the safety perception: the greater the belief that buying drugs online is safe for one's health, the higher the chance that one would make this purchase in the future.
3. **The past purchasing behaviour** of an individual was the third most important significant predictor of their intention to make a future purchase. The more frequently an individual has purchased pharmaceutical products online in the past, the greater the likelihood that they will make this purchase in the future.
4. **Attitude** was the fourth more important significant predictor of the intention to make a future purchase: the more the degree to which one favourably evaluates the practice of obtaining medications online, the greater the likelihood that one would engage in this practice in the future.
5. Furthermore, it was found that safety perception was the most important factor in determining both attitude and subjective norm; consequently, the higher the perception that purchasing pharmaceuticals online is safe for health, the more favourably it is judged, and the more it is approved of by other people who are important to the respondent.¹⁸
6. Variables of a socio-demographic nature were very unimportant and varied considerably across the three nations. In Italy, respondents who live in big cities or in their suburbs are more likely to have made more purchases and to have a stronger future intention to purchase than respondents who live in small towns, in country villages, or in the countryside. This is because respondents who live in big cities or in their suburbs tend to have access to more economic opportunities. In Spain, men

¹⁷ Chiu, C. M., Wang, E. T., Fang, Y. H., & Huang, H. Y. (2014). Understanding customers' repeat purchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value and perceived risk. *Information systems journal*, 24(1), 85-114.

¹⁸ Pujari NM. Study of consumer's pharmaceutical buying behavior towards prescription and non-prescription drugs. *Journal of medical and health research*. 2016; 1(3): 10-18.

respondents had a tendency to have a more optimistic attitude concerning future purchases, as well as the perception that buying things is a safer practice than it is among female respondents. In Portugal, there were no variations in previous purchases or future intentions that could be considered statistically significant as a result of demographic factors.¹⁹.

Need for study:

Both developed and developing nations are seeing an increase in the number of sales made and purchases made online for a variety of goods. This trend may be attributed to the accessibility of ubiquitous internet and awareness. There is a growing interest among many different categories of people, as well as concerns and questions regarding the buying and selling of medicines through the internet. This is due to the availability of information and communication technology at prices that are significantly lower than in the past, as well as the presence of an improved supply chain for online purchases of commodities. A great number of pharmacies that operate only online have already begun advertising and selling their wares online by showcasing their items on their websites and providing consumers with discounts ranging from 35 to 55 percent.

Research Objectives

The aims of study are

1. To investigate socio-demographic variables on the future intention of purchasing pharmaceutical products online
2. To overview Impact of psychological and socio-demographic variables on purchasing pharmaceutical products online.
3. To identify the risk factors towards online purchase intention of medicines

Research Methodology

The survey that was conducted for the research on risk factors regarding the desire to buy drugs online included a total of 300 sample respondents, all of whom were picked using the

¹⁹ Anwar and Gupta (2020) "Factors Leading to Preference for buying Online Medicines and their Effects on Actual buying Behaviour" Zeichen Journal. 2020; Vol. (6), pp.2-5.

easy sampling random technique through the use of Google forms, the data from the respondents who were part of the sample selection were obtained.

Findings, Results and Discussion

Demographic profile of the respondents

The specific aspect of a population that is being studied is known as its demographics. When carrying out a survey, it is of the utmost importance to have a thorough understanding of the demographic characteristics of the population being sampled. This is because it is only after having a thorough understanding of the particular characteristics of the population being sampled that we are able to classify the data in a manner that is meaningful. The first section of the survey is comprised of a distinct category of questions that are focused on obtaining information on the respondent's gender, age, and Level of experience on online purchase. The following table contains an analysis of the replies that were summarized using the aforementioned parameters.

1. Profile of the respondents

Table 1 Profile of the respondents

Profile	Category	N	Percentage
Age group	Young	125	41.7
	Middle	133	44.3
	Old	42	14.0
Gender	Female	94	31.3
	Male	206	68.7
Level of experience on online purchase	Less	96	32.0
	Moderate	158	52.7
	More	46	15.3
Total		300	100.00

Graph 1

Conclusion

One variation of this e-purchase model is online pharmacy model where a consumer can purchase the prescribed drug online to take some of the advantages of this model. The advents in technology through continuous innovations have supported to improve the quality of the human life in the society. One of the innovation due to the invention of ICT based online/mobile high-speed internet is e-business which allowed the development of online shopping/purchase of both intangible and tangible commodities online. Pharmacy in India is a new and attractive business model which can contribute positively to the healthcare system. The supply of medicine in every corner of the country is becoming easier after e-pharmacies came into the Indian market. Due to the other advantage of e-pharmacy like a discount, good customer relationship management, contactless doorstep delivery, etc. the business model of e-pharmacy is becoming popular among the customer. But there are also various types of risk associated with e-pharmacy for example drug resistance, drug abuse, illegal reselling of medicine.

Bibliography

- [1] Awaisu (2015) "Hospital pharmacists' self-evaluation of their competence and confidence in conducting pharmacy practice research". Saudi Pharmaceutical Journal, Vol.23 (3): pp.257-265.
- [2] Priyanka and Ashok. (2016) "E-pharmacies regulation in India: Bringing new dimensions to the pharmacy sector". Pharmaceutical Regulatory Affairs.Vol.5 (175): pp.1-7.
- [3] Shen and Chiou, J.-S. (2010).The impact of perceived ease of use on Internet service adoption: The moderating effects of temporal distance and perceived risk. Computers in human behavior, Vol.26 (1), pp.42-50.
- [4] Chen, Yan and Fan, W. (2015). Examining the effects of decomposed perceived risk on consumer online shopping behavior: a field study in China. Engineering Economics,Vol. 26(3), pp.315-326.

- [5] Chiu, C. M., Wang, E. T., Fang, Y. H., & Huang, H. Y. (2014). Understanding customers' repeat purchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value and perceived risk. *Information systems journal*, Vol.24 (1), 85-114.
- [6] Cunningham Gerlach Harper and Young (2005). Perceived risk and the consumer buying process: internet airline reservations. *International Journal of Service Industry Management*, pp.3-7
- [7] D'Alessandro Girardi and Tiangsoongnern, (2012). Perceived risk and trust as antecedents of online purchasing behavior in the USA gemstone industry. *Asia pacific journal of marketing and logistics*.
- [8] Featherman and Pavlou, (2003). Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies*, Vol.59 (4), pp.451-474.
- [9] Gefen, D., Karahanna, E., and Straub, D. W. (2003). Trust and TAM in online shopping: an integrated model. *MIS Quarterly*, Vol.27 (1), pp.51-90.
- [10] Grazioli, and Jarvenpaa, (2000). Perils of Internet fraud: An empirical investigation of deception and trust with experienced Internet consumers. *Systems, Man and Cybernetics, Part A: Systems and Humans, IEEE Transactions on*, Vol.30 (4), pp.395-410.
- [11] Harridge- March (2006). Can the building of trust overcome consumer perceived risk online? *Marketing intelligence & planning*.