The Effect of Online Consumers' Risk Perception, Perceived Usefulness and Subjective Norms on Online Purchase Intention: Cross-Sectional Study on Online Pharmacy in the Context of COVID 19

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Abstract

Over the last decade, India has witnessed an exponential rise in the sales through e-commerce platforms. With the pandemic-related lockdowns and social distancing norms being the new normal, individuals are forced to shop online, for their day-to-day requirements. The trend has become increasingly pronounced in the last year. One such domain that has come to the fore in our fight against the epidemic is e-Pharmacy. Increasing internet penetration, e-commerce adoption, and changing consumer preferences are some of the growth drivers of e-pharmacy and the market is expected to grow at a compounded rate of 44 per cent to reach $ 4.5B by 2025 in India. However, the sector also faces several challenges like lack of trust, privacy issues, legal concerns and limited geographical presence. In the context of the lack of studies examining consumer attitude towards e-pharmacy in India, this study investigates the effects of risk perception, perceived usefulness and subjective norms on customers' online purchase intention towards e-pharmacy. The data is collected from 490 customers across different parts of India through online and offline data collection modes, out of which 423 was the final sample size, after deleted the incomplete questionnaires. Purposive sampling was employed to select the sample respondents, and data analysis have done using statistical tool IBM SPSS. The study revealed the significant relation between risk perception and perceived usefulness towards online purchase intention while the influence of subjective norms on online purchase intention is found insignificant. Online pharmacies have shown a lot of promise in terms of enhancing pharma retail. Their continued expansion would improve the digital healthcare ecosystem and help the government to achieve its goals of providing efficient and cheap health coverage. The insights gained from this study will significantly help health marketing professionals and other stakeholders to formulate their strategies more effectively.

Keywords: Risk Perception, Online Pharmacy, Online Purchase Intention, Social Influence, TAM

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Introduction

Online shopping has become a routine behaviour of common man in this modern era. Majority of the products and services are available in and through online nowadays. To the matter of fact, these includes medicines for diseases, both prescription and non-prescription medications (OTC). Such online pharmacy is also known as internet pharmacy or electronic pharmacy (e-pharmacy) or cyber pharmacy (Yadav et al., 2020). Thus, in this study, E-Pharmacy is defined as the selling and buying of medicinal products or pharmaceuticals on the basis of orders placed by customers over the internet and delivering through the e-commerce supply chain (Srivastava, M. and Raina, M., 2020).

In the midst of all technological acceptance and adoption trends, e-pharmacies have become a serious health concern among all stakeholders of pharmaceutical business. The World Health Organization has cautioned that e-pharmacy is associated with significant health-related risks (Sah et al., 2018). These include easy availability of illegal or unapproved drugs, medications offered without a prescription even to minors and habitual errors on self-medications too. Despite all these concerns, e-pharmacy is an emerging segment with huge market potential as per the market research studies. This online platform has made the process of procuring medicines extremely convenient for the consumers by providing easy opportunities to purchase.

Though there are significant contributions to the extent of online pharmacy literature in general, a few research gaps are still visible and unexplored. Most of the past studies are qualitative and less attention was drawn on factors affecting consumers' intention to adopt online pharmacy (Sabbir et al., 2020). Hong & Cho (2011) observed that there are related studies focusing on the effects of behavioural variables on consumers' shopping behaviour. Little attention has been paid to a comparative examination of the direct influence of technology based or intention-based variables on online purchasing intention of medicines. There is a scarcity in internet pharmacy literature, discussing the purchase intentions among Indian consumers where e-pharmacy is on emerging trend. Besides, it is found that perceived usefulness and subjective norms play a pivotal role in the adoption and continuous usage of technology–driven products (Lei *et al.*, 2022) like e-commerce in developing geographical regions. Therefore, this study is aimed to identify antecedents of online purchase intention towards pharmacy which is, to great extent, untapped in both marketing and management literature. The current study tries to explain and predict individual changes in purchase behaviours and to understand the purchase intentions towards online pharmacy in the COVID-19 era. Specifically, this model studies risk (threat) perceptions and usefulness as important elements that help in predicting individual health- related behaviours (Kaur and Arora, 2021; Lei et al., 2022) along with the normative pressure from social fabrics that inevitably affects consumer buying behaviour (Salem and Nor, 2020). Globally, many studies have been conducted for knowledge and perception of online pharmacy among consumers (Sah et al., 2018; Alfahad et al., 2015). From a consumer perspective, e-pharmacy offers appealing advantages like 24/7 service, online consultation for medication, better delivery service, greater privacy for consumers and price comparison with a purchase at a lower tag (Ma, 2021). Apart from all these advantages over brick-and-mortar pharmacies, the studies reveal that the adoption rate for online pharmacies is low among consumers (Pál et al., 2015). Literature search showed that there were hardly any studies which discussed the risk perception, perceived usefulness and the effect of subjective norms influencing purchase intention of online customers of medicines in India. The empirical studies have shown that there is a paucity of studies investigating the key antecedents or predictors underlying consumers' intention of using e-pharmacies (Alfahad et al., 2015; Yin et al., 2016). To fill in these gaps, the researcher analyzed the factors impacting the online consumers' purchase intention of non-adopters of e-pharmacy in India. Recently, in this era of social distancing and quarantine, Iorfa et al. (2020) postulated that the studies on risk perception and other related variables will add significant value to health management literature.

This study therefore investigated how online consumers' risk perceptions (OCRP), perceived usefulness (PU) and subjective norms (SN) could influence online purchase intentions (OPI) of medicines. The researcher constructed the conceptual model based on prior research and the technological acceptance model (TAM) with additional constructs derived from Theory of Planned Behaviour (TPB) and Theory of Risk Perception (TRP).

Review of Literature

Online consumers' Risk Perception and Online Purchase Intention

Online pharmacy is a newest mode of purchasing medicines, using internet application as well as mobile commerce. Due to its inherent risk elements, the industry strives to develop solid e-platform applications with secure environments,

convenience and efficient business transactions. Online pharmacy expanded its presence through various kinds of activities, connecting consumers across the world which provides prescription and non-prescription medications and drug information along with other professional services. In the wake of covid-19 pandemic, e-pharmacies were called upon as key organization of the healthcare system, alike India, in many countries, pharmacies were listed as essential services (Awari & Suryawanshi, 2020). Subsequently, the delivery mode of pharmacy service was forced to transform their operations through online along with its offline operations. Simultaneously the health-related concerns were still overwhelmed and were on rise, in the public as well as among online customers (Ashiru-Oredope et al., 2020) with regard to its reliability and trustworthiness. Besides, there are a number of risks to patient safety exist, including the risk of receiving falsified medication when purchasing medication online (Jairoun et al., 2021).

According to literature, online purchase behavior differs from offline mode of purchase significantly. Online consumer's behavior is affected by numerous socio-economic-cultural factors (Aref & Okasha, 2020). In order to identify the purchase behavior of individuals in an online environment, many researchers adopted various theoretical models. Among those, according to previous literature Technological Acceptance Model (TAM) is extensively used to study the individual intentions to adopt technological applications and consumer acceptance. Due to its wider acceptance in information system, TAM is extended and modified with motivational factors or additional constructs for specific contexts (Shin, 2009). Though number of studies validated this theoretical framework, TAM is limited by neglecting social influences on technological adoption and usage as well as ignored the barriers that prevent the consumers to use a particular technological system. TAM is the most effective tool to incorporate the factors such as social influences and perceptional dimensions into this integrated model (Rouibah et al., 2011). Thus, this model integrated the key drivers of online pharmacy adoption such as risk, usefulness and subjective norms which are explained and defined, and their relationship to online purchase intentions and the acceptance of online pharmacy in India. The nomological structure of the TAM with these potential variables of predicting the users' behavioral intention and their interrelationships integrates them into a parsimonious and coherent research model.

TAM is used as the foundational framework to examine the factors that predict the consumers' purchase intention to use e-pharmacy. Furthermore, Lei et al. (2022) presumes that the primary outcome in TAM is behavioral intention, which Davis et al. (1989) defined as a person's intention to use a specific technology. Online purchase intention is generally described as the willingness of customers in utilizing the internet services to perform an actual purchase of goods and services or to compare product prices (Iqbal et al., 2012). Purchase intention is a kind of decision-making to buy a particular brand by consumer (Shah et al., 2012). Purchase intention is defined as a situation where consumer tends to buy a certain product in certain condition (Ma, 2021). The meta-analysis of e-commerce literature suggests that purchase intention offers a fairly acceptable and equitable approach to online buying behavior. Küster et al. (2016) posited that purchase intention is meant as "what we think we will buy." Online purchase intention is operationalized as the psychological predisposition of a consumer towards a particular product or service and willingness to buy it based on their learning or prior experience.

Ariffin et al. (2018) observed that the existence of strong privacy and security or the ability to fulfil customers' needs and wants, is more than just trusting in goodwill to influence online purchase intention. In fact, past studies primarily investigated the impacts of technological characteristics of e-pharmacies, ignoring the psychological perceptions of online consumers. And those studies failed to differentiate the perceptions and evaluations of adopters of e-commerce from non-adopters of e-pharmacies which is in high-risk context (Yin et al., 2016). This study has comprehended these deficiencies. The adoption of e-pharmacy is influenced by various factors both negative and positive. Though online consumers are familiar with other e-transactions, they are concerned with the issues like counterfeit medicines, financial security, privacy, lack of proper legal or regulatory frameworks and credibility of e-vendors with regard to e-pharmacy which is in

high-risk context. Therefore, consumers are hindered from using e-pharmacies due to their perceived risk, lack of confidence in conducting safe purchase and uncertainty towards purchasing medicines through the online channels (Alfahad et al., 2015). Various studies revealed that the risk perception have a significant influence in the consumer decision making process. Because, consumers with low perceived risk are likely to engage in purchasing activities than consumers with high perceived risk and vice versa. Since the spatial gap between consumers and e-retailers are huge in an online environment, there is more unpredictability and uncertainty in purchasing activity which can lower consumers' purchase intention (Suh et al., 2015). Various researchers defined perceived risk as the uncertainties and unintended consequences associated with the usage of a particular technology (Im et al., 2008). Amoroso & Hunsinger (2009) observed that the study on perceived risk makes a valuable contribution towards explaining information-searching behaviour and consumer purchase decision making process. Every purchase contains some degree of risk (Krithika & Rajini, 2020). Bauer (1960) coined the idea of perceived risk, described as "consumers perceive uncertainty in contemplating a particular purchase intention, resulting in consumers unhappy and regretful outcomes and concluded that consumers' behaviour is risk-taking".

Based on the context of transaction (offline or online), the degree of risk perception varies. Tracing from the earlier literature, this risk perception is treated initially as unidimensional and later evolved into multidimensional, includes performance risk, psychological risk, product risk, time risk, delivery risk, physical risk and many, specific to each context (Hong, 2015). In this study, the researcher applied unidimensional approach of risk perception to incorporate the multiple risk dimensions into single theoretical framework for better integration. It is studied that those customers who perceive risk in using e-pharmacy will divert away their intention from using the system (Featherman & Hajli, 2016). In other words, a customer who perceive e-pharmacy to be risky will not be concerned about its advantages or resources or benefits of use it, and will not make any effort to familiarize or adopt with the new method of purchasing medicines online. However, there are a few studies differ in its degree of influence on purchase intention based on its contexts (Iriani & Andjarwati, 2020). Ma (2021) found that the effect of perceived risk on online consumers' purchase intention is not significant, but indirectly impact the purchase intention via trust factor. Indeed, consumers perceive more risks and uncertainties in the phase of online than offline purchases. Therefore, perceived risk negatively influences and as negative determinant of consumers' intention to purchase online (Featherman & Pavlou, 2003; Koufaris & Hampton-Sosa, 2004; Aref & Okasha, 2020). This finding is supported by the online medicine purchases in China also (Yin et al., 2016). Thus, in line with past literature, this study assumes that the risk perception has significant negative influence on online purchase intention of using e-pharmacy in India too. Based on the preceding literature review of consumer buying characteristics in the online environment, It is hypothesized that

H1: Perceived risk negatively influences the online purchase intentions of consumers towards online pharmacy.

Perceived Usefulness and Online Purchase Intention

Online pharmacy provides a wide range of advantages such as price comparison and discounts, time-saving, privacy, great promotions, wide product (medicines) ranges which significantly enhance online purchase intentions among online consumers. However, it is important to identify the factors influencing consumers' intention toward the online purchase of medicines. Thus, in the context of risk perception, Featherman & Hajli (2016) modelled perceived usefulness as a mediator in their study, assuming that consumers who perceive high levels of usage risk towards e-service will find it as less useful and have reduced intention to adopt e-service. On the other hand, Kaur & Arora (2021) inferred that those who perceive lower potential risks of e-transactions will tend to comprehend its usefulness and in turn, heighten their intention to buy through online. These findings indicate the significant role of usefulness in the online purchase behavior. Svorc (2012) found that perceived risk and usefulness are significant predictors influencing consumers' purchase intention towards online pharmacy in Czech context. Unlike other intention studies, this

study disintegrated risk perception and perceived usefulness each other to identify the significance of each construct towards the online purchase intention of online consumers in India . This paper conceptualized the given construct perceived usefulness through Technology Acceptance Model (TAM) (Davis, 1989) as commonly used models for research on usage intention towards a new technology. Because if the consumers to consider usage or trial of any product or service, the consumer should find the new product as useful (Thakur & Srivastava, 2013). Since, online pharmacy is an innovation-technological interface for purchasing medicines in a developing country, the usefulness is a key determinant for its adoption and usage. TAM uses two interrelated beliefs; perceived usefulness and perceived ease of use as basis of purchase intention of computer acceptance. But the relevance of these variables vary according to the hedonic or utilitarian technology based categorization of product or service (Im et al., 2008). PU is adopted to this study due to its product categorization; utilitarian product use. PU is defined in this study as the degree to which an online consumer believes that using a particular system (e-pharmacy platform) would enhance their purchasing performance of medicines. Yin et al. (2016) admitted that perceived risk, performance expectancy (similar to perceived usefulness), social influence, and trust have a significant influence on consumers' purchase intention of e-pharmacy in China. Past studies have extensively referred the importance of PU in information system (IS) adoption. In the context of e-pharmacies which provides convenience and efficiency, perceived usefulness is deemed to play a critical role to motivate consumers to purchase medicines online in spite of its risk perceptions. Besides, some authors postulated that perceived usefulness is more significant and influential in the context of low-risk environment like online games or lower e-transactions than high -risk contexts. However, perceived usefulness is consistently found as the significant and positive predictor of purchase intentions in healthcare too (Turja et al., 2019). Empirical studies examined online purchasing intentions among various other e-commerce applications and industries in the context of the online shopping behavior such as online banking (Kaur & Arora, 2021), intention to use internet marketing (Tran, 2020), mobile commerce (Thakur & Srivastava, 2013) and online retailers (Malhotra et al., 2017). However, there is scarcity in literature about consumers' perceived usefulness towards e-pharmacy in India (Srivastava & Raina, 2020). Thus, this paper is distinguished from other corresponding studies on health care. Hence, consumers are likely to consider the online purchase useful for making purchases of medicines in future. Thus, it is hypothesized that

H2: Perceived Usefulness positively influences the online purchase intentions of consumers towards online pharmacy

Subjective Norms and Online Purchase Intention

There are several factors derived from social domain to formulate a theoretical models related to online purchase intention of individual behaviour in e-commerce such as subjective norms, social pressure and social support (Chan & Lu, 2004). Unlike other theoretical models which studies subjective norm (SN) as complementary, the researcher adopted SN as independent variable. Ajzen & Fishbein (1977) suggested the Theory of Reasoned Action (TRA), an intention model as a potential theoretical foundation for predicting and explaining consumer behaviour across a wide variety of domains. TRA validated the determinants of consumers' purchase intention behaviours with the variables of attitudinal and social influence. Ajzen (1975) defined social influence as subjective norm which is a "person's perception that most people who are important to him think he should or should not perform the behavior in question". The studies related to TAM framework indicate that social factors are stemmed from TAMs. Lei et al. (2022) referred that social influence which is described as subjective norm is positively related to behavioral intention. Subjective norm is considered as a determinant of the behavioral intention (BI) due to the impression that consumers generally may adopt or change a particular behavior in order to identify themselves with a group which they comply. Because in the case of technology acceptance context, individuals' response to a particular purchase activity is influenced by their social interactions with others such as friends, classmates and family members, even children (Sabbir et al., 2020). There is a significant positive impact of subjective norms, as reported in

previous studies, on consumers' purchase intention towards online shopping and health information technology (Iorfa et al., 2020). This is evident in religious context too (Zakaria et al., 2018). Besides, many studies claim that subjective norms exert its impacts on related variables like usefulness and attitude and user intention as the moderating variable (Svorc, 2012). Therefore, it is assumed that the relationship between user intention and subjective norm may depend on the technology and the contexts (Lei et al., 2022). Handarkho (2020) and Khan & Azam (2016) concluded that subjective norms are not statistically significant in relation with users' purchase intentions. However, in this study, the researcher assumes that family members or friends may likely to have influence on potential adopters of e-pharmacy. Thus, subjective norm is adapted in this model.

Therefore, the following hypothesis is proposed:

H3: Subjective norms negatively influence the online purchase intentions of consumers towards online pharmacy

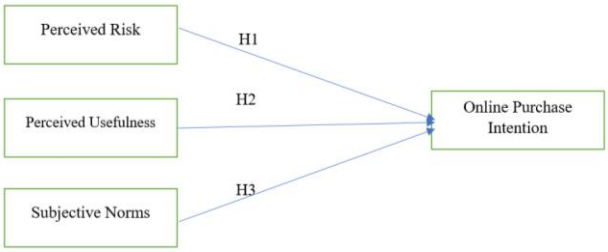

Figure 1: Conceptual framework

Research Methodology

This descriptive study is conducted among the online consumers in India who haven't purchased medicines through online pharmacy. The perceptions of online consumers towards online pharmacy are measured using questionnaires. Out of 700 questionnaires distributed, 490 received back and after eliminating the incomplete questionnaires, 423 samples were selected for final data analysis. The sample comprised of 32.9% male (139) and 67.1% female (284) and a majority of them (55.3%) of them had a post-graduate-level educational qualification. 50.8% of the respondents (215) were in the age group of fewer than 30 years, 33.3% were in the age group of 30-45 years (141), and the rest of them were aged above 45 years.

Measures

In this study, the researchers have adapted validated scale for measuring the focal constructs. Perceived risk is measured using a 7-item scale developed by Bu¨ttner & Go¨ritz (2008). The scale had adequate reliability (α=0.907) with sample items "Information about your illnesses and/or your use of medication falls into the hands of unauthorized people" and "You receive counterfeit, adulterated or expired medication".

Subjective norm is measured using a 4 item-scale developed by Al-Swidi et al. (2014). The scale had adequate reliability (α=0.858) and the sample items included " The trend of buying medicines through online pharmacy among people around me is increasing" and "My close friends and family members would appreciate if I buy medicines through online pharmacy"

Perceived usefulness is measured using the 8-item scale developed by Punakivi (2019). The scale had adequate reliability (α=0.897) with sample items "Buying medicines online is more effortless than buying from brick-and-mortar pharmacy" and "I appreciate that I can do shopping 24/7 from any place I want".

Online Purchase Intention is measured using the 5-item scale developed by Bashir & Madhavaiah (2015). Sample items included "I intend to purchase medicines over Internet in the future" and "I will add Internet pharmacy to my favourite links" (α=0.918).

Reliability

The reliability of the scales is examined using Cronbach's Alpha. Since the Cronbach's alpha values of all 4 constructs are above the minimum threshold value of 0.70 (Nunally ,1978); the reliability of the scale is established (Table 1)

Table 1: Reliability Analysis of Scale

Construct	No of items	Cronbach's Alpha
Perceived Risk	7	0.907
Perceived usefulness	8	0.897

Subjective norms	4	0.858
Online Purchase Intention	5	0.918

Data Analysis and Results

The data analysis is performed using IBM SPSS 23.0. Descriptive Statistics are used to portrait the profile of respondents and to summarise the variables. (Table 2). Preliminary checks for normality are performed and all constructs have acceptable values of kurtosis and skewness (+/- 1.5) (Hair et al., 2010). Further, multiple regression analysis is carried out to examine the causal relationship between independent and dependent variables.

Table 2: Descriptive Statistics of Variables

Construct	Mean	Std. Deviation	N
Perceived Risk	3.3715	.65589	423
Subjective norms	3.2453	.69227	423
Perceived usefulness	3.7169	.63686	423
Online Purchase Intention	3.4147	.72535	423

Since all constructs are self-reported, Harman's Single Factor test is conducted to check the common method bias. When the measurement items were loaded into a single factor, it is found that the total variance explained by the single factor alone was 31.19% which is below the threshold value of 50%, thus confirming no indications of common method bias (Table 3).

Table 3: Harman's Common Method Variance

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.331	26.381	26.381	6.331	26.381	26.381

Multicollinearity is tested using VIF factor statistics (Table 4). The values of VIF are below the threshold limit of 3, which indicated no multicollinearity issue among the constructs.

Table 4: Multicollinearity

Construct	Tolerance	VIF
Perceived Risk	0.996	1.004
Subjective Norms	0.997	1.003
Perceived usefulness	0.996	1.004

Hypotheses Testing

Multiple regression analysis is performed to understand the effect of independent variables (Perceived risk, Perceived usefulness, Subjective norm) on the dependent variable (Online Purchase Intention). Multiple regression analysis with Perceived Risk, Perceived usefulness, subjective norm as independent variables and Online Purchase Intention as dependent variable (Table 5a) reveals an R square value of 0.211. It implies that 21.1 % per cent of the variance in Online Purchase Intention is explained by Perceived risk, Perceived usefulness, Subjective norms. Table 5b shows that the model is significant (F=37.302, p=0.00). Table 5c presents the significance of each independent variable on Online Purchase Intention (dependent variable)

Table 5a. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.459	.211	.205	.64669

Table 5b. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.800	3	15.600	37.302	.000
	Residual	175.230	419	.418		
	Total	222.029	422			

Table 5c. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.904	.287	000	6.644	.000
	Subjective Norms	-.019	.046	-.018	-.417	.677
	Perceived Risk	-.095	.048	-.086	-1.974	.049
	Perceived Usefulness	.509	.050	.447	10.280	.000

Dependent Variable: Online Purchase Intention

The table 5c reveals that Perceived Risk is significantly related to Online Purchase Intention (β =0-0.095, t= -1.974, p<0.05). The result supported the first hypothesis stating that Perceived Risk negatively influences the Online Purchase Intention. Perceived usefulness is found to have significant relationship with Online Purchase Intention (β =0.509, t=10.280, p<0.01). Thus, the second hypothesis stating that Perceived usefulness positively influences the Online Purchase Intention is also supported. On the other hand, subjective norm is found to have no significant effect on Online Purchase Intention (β= -0.019, t=-.417, p=0.677). Thus, the third hypothesis stating subjective norms positively influence the Online Purchase Intention is not supported in the study.

Discussions

This research empirically validated a conceptual framework that would help to understand consumers' purchase intention towards E-pharmacies in India. The current study examined the impact of online consumers' risk perceptions, perceived usefulness and subjective norms on online purchase intention (OPI) towards e-pharmacy. Based on the literature review and Technological Acceptance Model (TAM), three hypotheses were formulated and tested through multiple regression analysis. The findings of the study revealed that online consumers' risk perceptions, perceived usefulness are significant predictors of OPI. On the other hand, the result indicated that subjective norms have no influence in fostering OPI in E-pharmacy. The current study

supports the findings of Ma (2021), who examined the effect of perceived risk on online purchase intention in China context which is the biggest e-commerce market where e-pharmacies can have huge market potential. While, Rouibah et al. (2011) examined these relationship in Arabian context and found perceived usefulness and subjective norms as predictors of OPI. Similar to other studies on e-commerce, the negative relationship between perceived risk and online purchase intention indicate that online consumers are reluctant and afraid to make purchase of medicines through e-pharmacies. And the significant relationship between perceived usefulness and online purchase intention implied that the online purchase intention would increase when they perceive that e-pharmacies provide them various advantages over the traditional mode of buying medicines like drug information, instant feedback from pharmacists, greater convenience and home delivery services. These findings are in line with previous studies (Ma, 2021; Gefen et al., 2003). These perception about its utilities and benefits are likely to enhance online customers' perceived usefulness of e-pharmacies and further boosts their intention to use e-pharmacies. Unlike the other studies, subjective norms shows in this study, the negative and insignificant relation towards online purchase intention (Chan & Lu, 2004). This study revealed that, similar to Handarkho (2020), the direct impact of subjective norms on intention to purchase medicines through online (H3) is not accepted. This indicated that in the case of purchasing medicines, the opinion and behaviour of other people who are important and close to the individual, such as close friends or family members, do not entirely affect their decision to purchase medicines through online. Though in this study, the subjective norm does not directly influence purchase intention of e-pharmacy, the findings of Lei et al. (2022) stated that subjective norm can have a significant indirect positive effect on purchase intention through the mediation of variables like usefulness, which requires further investigation.

Theoretical and Managerial Implications

In the context of TAM, TPB and TRP theories, the present study addressed the relative shortage of literature on E pharmacy in Indian Context (Sabbir et al., 2020; Srivastava & Raina, 2020), by examining the direct effect of perceived risk, perceived usefulness and subjective norms on consumer's Online purchase intention of e – pharmacies. The study addressed the deficiencies related to online pharmacy literature, investigating the key antecedents or predictors underlying consumers' intention of using e-pharmacies (Alfahad et al., 2015; Yin et al., 2016). Despite the risk perception, consumers are positively and significantly influenced by the perceived usefulness on online purchase intention towards e-pharmacy. However, the study exposed the criticality of online purchase of medicines through its negative and insignificant impact of social factors or social performance or subjective norms on online purchase intention of consumers in India.

The theoretical contribution of this study further lies in the observation of subjective norms in relation with online purchase intention towards e-pharmacy which is never treated earlier in previous literature on e-pharmacy in India. Because, prior studies included various user factors and characteristics derived from shopping behaviours rather than social factors which encourage customer to take purchase decision in online platforms. Therefore, this study proposed theoretical model for integrated online purchase intention constructs, providing deeper insight into the impact of risk perception, perceived usefulness and social factors into single model, having direct effect on consumers' intention to purchase medicines online. Hence, these analyses can also be considered as a theoretical contribution.

The results of this research elucidated better understanding about the risk perceptions corresponding to e-pharmacy and to the extent of communicating the 'usefulness of technology' among non-adopters of e-pharmacy. In short, the results of the study described above, have several important managerial implications. Due to varying and changings online environment, to understand the parameters that exhibit positive or negative impacts on customers' purchase intention towards online pharmacy would be valuable for e-retailers to develop effective strategies for the successful implementation of online distribution channels. The study shows

that perceived risk acts as an inhibitor toward online purchase intention to use e-pharmacies. Thus, it can be assumed that policy makers or marketers have to strategize mechanisms to control risk perception in e-pharmacy, which is more important in emerging economies like India. Besides, this study has several limitations that provides the avenues for future research such as the mediation mechanism and the presence of moderators like cultural aspects, demographic variables, trust factors in the formation of purchase intention. Precisely the sample size is limited and longitudinal study ranks better than cross section study to draw out a comprehensive finding especially in the field of new technological usage like e-pharmacy in India.

Recommendations and Conclusion

The online pharmacies must also adopt effective strategies to address the consumer's concerns of purchasing medicaments online. The experienced online consumers shall be assured of offering approved products, fast transportation, relevant certifications from regulatory authorities, professional advice prior and after sale of pharmaceuticals. Since the trading of pharmaceuticals via online channel is relatively new, which has not been accepted widely by consumers in developing countries like India. Therefore, longitudinal studies are said to be more effective than cross sectional studies which is being used in this paper. And the interaction of various constructs has not been conducted through mediation and moderation to formulate a more comprehensive theoretical framework. Considering the above recommendations, future studies could explore the intervening mechanisms to understand the underlying purchase behaviour of online consumers towards e-pharmacy. Besides, a more detailed study is required to determine the differences in the influence of studied variables on various categories of medicaments, including over the counter (OTC), healthcare, and beauty products.

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