

Determinant Attributes of Perceived Risks from Online Shopping: A Study of Delhi & NCR

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ABSTRACT

Consumer behaviour has shifted steadily with an increase in online shopping. The benefits range from diversity in products, instant comparability in prices, and swift accessibility. Regardless of online shopping undergoing a steadfast evolution, the risks perceived by the online shoppers remains a significant determinants factor during the process of decision-making while shopping online. This study is centered on the exploration of the major perceived risks that are encounter by online shoppers during their process of decision-making while shopping online. The results of the study found the five major determinants attributes of perceived risk form online shopping. In case the online retailers are well-aware of these factors, they can formulate strategies to reduce these risks attributes and persuade potential customers into becoming actual customers.

Key Words: Online Shopping, Customer Perception, Perceived Risk, Performance Risk, Financial Risk.

1.0 Introduction

The speedy development and effortless availability of the internet have transformed the world into a universally accessible market place for shopping, providing services through online web stores. It is the internet which revolutionized the way of shopping throughout the globe. In traditional shopping, customers are required to go to the physical retail outlet, search the desired product, distinguish the various products at the outlet if feasible and ultimately, make the purchase decision. But this process has changed drastically with the advancement of online shopping (Sen, 2014). The sale of the product through online platforms allows the manufacturer to cut down the transportation and intermediaries cost which benefit in reducing the price of the products, resulting in discounts for consumers via online sellers. Many organizations have adopted online retailing for selling their products as it provides them with a competitive advantage in the worldwide market (Sen, 2014).

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Although online shopping has valuable and resolute growth, it is frequently associated with some cynical aspects. Online shopping is devoid of the facility of assessing the product quality, its tangibility and having a direct interaction with the salesperson before making a purchase. Due to this fact, consumers perceive more risk and less trust as compared to offline shopping in the online shopping environment (Laroche, Yang, McDougall, & Bergeron, 2005). If the purchased product is returned or replaced, then time, convenience and effort get wasted (Ko, Jung, Kim & Shim, 2004). It has been revealed that the perceived risk associated with online retailing directly affects the purchase intention and decision-making process of the customers before making a purchase. That's why it is likely that the purchase or repurchase intention remains low in online shopping as the customer senses high-risk. (Yang, Lester, & James, 2007).

Consequently, it is presumed that online shoppers perceive a certain amount of risk during online shopping, which influences their purchase decisions. Online shoppers comprehending lesser risk from making purchases online are more likely to shop online, as opposed to those perceiving higher risk. Therefore, this research is conducted for the identification of the risk perceived by online shoppers from shopping online. The results of the research reveal the major attributes of perceived risk from online shopping.

2.0 Literature Review

Raymond A. Bauer (1960) has drawn the initial idea of perceived risk from psychology. According to him, perceived risk affects purchase decision but he could not explore the specific types of risk perception in the technological environment (Bauer, 1960). Later on after Bauer's theory, Cox & Rich (1964) explain perceived risk with the specific explanation. They assumed that perceived risk contains two factors; the first factor is lack of certainty, while the second one is unfavorable outcomes (Cox & Rich, 1964). Therefore, consumers will continue to discern risk in shopping online as they encounter ambiguity and likely unfavorable results as an outcome of purchasing (Dowling, G.R. & Staelin, 1994). Accordingly, the risk perceived by the consumers is effective in deciphering their decision-making process of purchasing because "consumers are more often motivated to avoid mistakes than to maximize utility in purchasing" (Mitchell 1997).

Therefore, the risk perceived by the customers is a likelihood of attaining an unfavorable result when shopping online, referring to the lack of certainty, along with the chances of a cynical outcome amongst an individual (Ko, Jung, Kim, & Shim, 2004).

2.1 Determinants of perceived risk in online shopping

There are several perceived risk related to online shopping but only six of them are acknowledged in the study, provided as follows:

- ❖ **Perceived Convenience Risk:** The acknowledged risk of convenience amongst the consumers is concerning the wastage of time and efforts, in a situation when the product fails to meet the anticipation and will have to be replaced, or returned (Ko et al., 2004). Furthermore, the risk of convenience encapsulates the difficulty faced while making a transaction online, the problem of navigation, along with the delays in receiving products, or lack of an absolute cancellation procedure for a product once purchased or ordered (S. Forsythe, Liu, Shannon, & Gardner, 2006). Moreover, there is a considerate fear in the consumers regarding a lag in the delivery. This fear arises from multiple conditions, beginning with a circumstance where the delivery company refrains to deliver the product within the given time frame as consent by the customer. A second condition where the consumers worry about the quality of the product, i.e. whether the product will get damage during the transportation. And third one is where the packaging is not done professionally while transporting the product (Claudia, 2012).
- ❖ **Perceived Quality Risk:** The perceived risk of the customers concerning the quality, or the risk of performance is a likelihood of the product failing to satisfy or deliver the performance as anticipated and required (Peter & Tarpey, Sr., 1975). It is the most frequent reason given by customers against online shopping and has an extraordinary impact on online shopping frequency (S. M. Forsythe & Shi, 2003). Customers comparatively feel a higher risk of quality when making purchases online than offline. This is due to the lack of physical touch and understanding of the product when shopping online (Alreck & Settle, 2002). These quality risks of the product affect the online purchase decisions making of the customers (Bhatnagar, Misra, & Rao, 2000). Generally, online shoppers perceive more risk while purchasing apparel products online as compared to purchase from traditional retail stores (Goldsmith & Goldsmith, 2002).
- ❖ **Perceived Financial Risk:** The chances of encountering economic loss arising from purchasing goods and services online are a financial risk (Horton, 1976; Peter & Tarpey, Sr., 1975; Sweeney, Soutar, & Johnson, 1999). Online shoppers face monetary loss in numerous ways such as counterfeit product, fake discounts offering hidden delivery charges, non-deliverance of the actual product, and misuse of financial details, which are the major concerns for the online shoppers. Financial risk also incorporates the monetary loss by online fraud such as stealing the card and account details. Perception of financial

risk is one of the major reasons among online shoppers for abandoning the carts during the process of online shopping (Egeln, Joseph, & Johnson, 2012). Accordingly, the perceived financial risk has been adversely affecting the online shopping and customers are hesitant to purchase a product through online shopping, which is found to be a robust predictor for purchase intentions of online shoppers (Bhatnagar et al., 2000; S. Forsythe et al., 2006). The frequency of online shopping, the amount spent on online shopping, intention to buy online and the tendency to abandon online shopping cart are influenced by the financial risk (Egeln et al., 2012; S. M. Forsythe & Shi, 2003).

- ❖ **Perceived Delivery Risk:** The likely loss of delivery is related to the goods that are lost, damaged, or sent to a wrong address after the order is placed. This is one of the major concerns amongst the customers that refrains them from making online purchases. As per Dan et al., the interpretation of this risk is centered on the likely failure of delivery that arises from the goods that are lost, damaged, or shipped to an imprecise address. As per Naiyi, these concerns of the consumers are associated with the process of delivery. For instance, there is always a possibility of a product getting damaged while it is transported, or can be shipped to a wrong address. In a lot of cases, there is a delay in the delivery as well. According to a study, there is a significant fear in the consumers regarding the likely delay in delivery (Claudia 2012). This happens through various situations, for example, a delivery company may not deliver the ordered goods within the consented time frame, leading to the dissatisfaction of the customer.
- ❖ **Perceived Privacy Risk:** The psychological risk arising out of the misuse of the data provided by customers such as banking details, address and personal details through the online sellers is a privacy risk. The data of customers can be tracked and stored, which can be further shared to third parties for transmitting promotional emails by the sellers (Earp & Baumer, 2003). Privacy risk is unlawful possession of the private data of customers that are shared during the process of purchasing goods online, by online sellers for various promotional organizations. Due to perceived risk, customers are hesitant to share personal data with online shopping providers. These privacy concerns have a negative relationship with the purchase intention of the customers to shop online. As the possibility of privacy risks increases, the purchase of goods and services from online portals decreases (Hoffman, Novak, & Peralta, 1999). Therefore, it is believed that perceived risks negatively affect the perception of customers towards online shopping (George, 2002).

- ❖ **Perceived Customer Service Risk:** It is the likely loss of after-sales services related to the challenges of a product, such as a guaranty and warranty services, installation services, along with commercial dispute. Such kind of risk encapsulates a probable loss associated with the functioning of the products after purchase, disputes or guarantee or warranty of the product. This further encompasses the peril of loss, which may be encountered by a consumer concerning a product, once the product has been purchased.

Perceived risk is imagined as the plausibility of adverse results, representing consumers' ambiguity concerning losses or gains in a specific transaction. The perception of risk concerning online shopping is interpreted as a prominent challenge in the future evolution of e-commerce. It is counted as the major determinant that influences a customer's decisive process to make online purchases. Furthermore, it is an ambiguous condition that is faced by consumers at a time when they cannot estimate the outcome of the online purchases done by them. The level of risk perceived by consumers, along with their susceptibility is the reasons impacting their purchase-making decisions.

Hence, the significance of identification and analysis of the factors that can control the willingness of a customer to shop online is necessary. This research is targeted towards the examination of the outcomes of the determinants of the perceived risk (i.e. perceived financial risk, perceived convenience risk, privacy risk, perceived performance risk, delivery risk and after-sales service risk) on consumers from online shopping.

3.0 Research Methodology

This study has been undertaken to identify the perceived risk associated with the online shopping so that it will provide useful insights regarding the risk perception and problems faced by the online shoppers and thus, it will assist marketers in taking key decisions to reduce the perceived risk factors in online shopping more effectively. The research design for the study is descriptive cum cross-sectional as it was anticipated to describe the factors of perceived risk associated with online retailing and the data was acquired just for one time from the target respondents (Malhotra and Dash, 2016). Thus, a descriptive cross-sectional study is used to describe and measure the factors of particular phenomenon at a specific point of time for a define population.

The population of this research study comprises the online shoppers of Delhi & NCR. A structured questionnaire was used to elicit the response from the online shoppers. The questions for the research instrument were derived from the literature review. The

questionnaire consists of three sections which include 20 questions. The first section includes questions about the demographic profile of the respondents like age, gender, marital status, education level, present status and average monthly income etc. and the second section comprises questions pertaining to shopper's level of awareness about online shopping. The third section consists of 22 statements based on five point Likert scale ranging from related to various risks perceived by the online shoppers.

The final data has been gathered from 442 online shoppers belonging to Delhi & NCR. Basic statistical tools with the help of SPSS 25.0 have been used to analyzing the primary data. Statistical software AMOS 23.0 has been used to measure the internal consistency and content validity i.e. validity of research instrument and to develop the model.

3.1 Objectives of the Study

The principal objective of the study is “to investigate the various perceived risk factors associated with online shopping that consumers feel or perceive during the online shopping.”

The main objective is supported by the following specific objectives:

1. To study the demographic profile of the customer of online shopping.
2. To identify the determinant attributes of risk perceived by the customers from online shopping.

4.0 Analysis and Results

4.1. Demographic Profile of Respondents

Table: 1. Demographic Profile of Respondents

Demographic Factors	Frequency	Percentage (%)
Gender		
Male	287	65.00
Female	155	35.00
Total	442	100
Age Group		
Up to 20	64	14.50
21 – 30	284	64.30
31 – 40	68	15.40
41 – 50	13	2.90
Above 50	13	2.90
Total	442	100
Marital Status		
Married	128	29.00
Single	314	71.00
Total	442	100

Educational Qualifications		
Under Graduate	75	17.00
Graduate	104	23.50
Post Graduate	161	36.40
Professional Degree	72	16.30
Others	30	6.80
Total	442	100
Present Status		
Service Holder	138	31.22
Self employed	72	16.29
Professional	130	29.41
Student	62	14.03
Home Maker	40	9.05
Total	442	100
Monthly Income		
≤ ₹ 10,000	91	20.59
₹ 10,001 – 25,000	132	29.87
₹ 25,001 – 50,000	143	32.35
Above ₹ 50,000	76	17.19
Total	442	100

The demographic profile of the respondents is shown in the table 1. It is observed from the table that the male online shoppers are 65 % while the rest 35 % respondents are female. Thus, a major chunk of online shoppers are male. As far as the age of respondents is concerned, majority of online shoppers i.e. 64.30 % belong to the age group of 21 – 30 years followed by 15.40 % respondents who belong to the age group of 31 – 40 years. 14.50 % respondents fall into the age group of up to 20 years whereas remaining 2.90 % and 2.90 % respondents belong to the 41 – 50 years and above 50 years age group respectively. Out of the total respondents, 71.00 % respondents are single and 29.00 % respondents are married. Thus, it is inferred that major chunk of online shoppers belong to the single status group. In terms of qualification, majority of respondents i.e. 36.40 % are post graduates followed by 23.50 % respondents who are graduates, 17 % respondents are having under graduate qualifications followed by the professional degree holders which constitute 16.30 % of total responses and 6.80 % respondents were having other qualifications such as diploma, certificate etc. The present status of the respondents reveals that the majority of respondents i.e. 31.22 % belong to the service holder category followed by 29.41 % respondents who are professional, 16.29 % respondents are self-employed, 14.03 % are student and 9.05 % are the home maker. The income wise classification shows that 32.35 % of online shoppers come under the ₹25001 – 50000 category, 29.87 % of the respondents belongs to the ₹10001 –

25000 income category; whereas 20.59 % respondents fall into the $\leq ₹10000$ income category and 17.19 % of online shoppers belong to above ₹50000 monthly income level.

4.2. Statistical treatment of Data

In order to identify the determinants attributes of perceived risk encountered by customers from online shopping, the exploratory factor analysis statistical technique has been used with the help of SPSS version 25.0. For sample adequacy, the KMO and Bartlett's Test of Sphericity was applied. The KMO value was 0.913 which is a marvelous value and data is considered to be highly appropriate for factor analysis. It is also clear that the test value of Bartlett's Test of Sphericity (3395.455) is significant level i.e. $p < .05$ from the table 2. Hence, the values of both the test confirm that data were suitable for factor analysis.

Table: 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.913
Bartlett's Test of Sphericity	Approx. Chi-Square	3395.455
	df	231
	Sig.	.000

The exploratory factor analysis was performed with principal component analysis on all the 22 items and results are shown in the table 3. The numbers of factors to be extracted were selected based on the Eigen value more than 1 for each component. Thus, the new categories are termed as factors and their percentage of variance explained respectively. Results of EFA are shown that all the 22 items collectively accounted 56.865 % of the total variance. This total variance explained (56.865%) from the 22 items indicate the satisfactory level of variance explained by a factor solution.

Table: 3. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.407	33.666	33.666	7.407	33.666	33.666	3.244	14.745	14.745
2	1.605	7.297	40.963	1.605	7.297	40.963	2.862	13.007	27.752
3	1.336	6.072	47.035	1.336	6.072	47.035	2.503	11.376	39.128
4	1.092	4.962	51.997	1.092	4.962	51.997	2.409	10.950	50.078
5	1.071	4.868	56.865	1.071	4.868	56.865	1.493	6.787	56.865
6	.924	4.201	61.066						
7	.852	3.875	64.941						
8	.828	3.762	68.702						
9	.732	3.328	72.030						
10	.656	2.981	75.011						
11	.618	2.811	77.822						
12	.602	2.735	80.558						
13	.547	2.485	83.042						
14	.499	2.269	85.312						
15	.490	2.227	87.539						
16	.475	2.161	89.699						
17	.437	1.986	91.685						
18	.425	1.933	93.618						
19	.378	1.719	95.337						
20	.361	1.641	96.978						
21	.346	1.571	98.549						
22	.319	1.451	100.000						
Extraction Method: Principal Component Analysis.									

For getting a meaningful interpretation from these factors, the varimax rotation was applied. Table 4 shows the rotated component matrix where each factors identifies itself with set of variables. The factor loading of all items are more than 0.40 which specify that all construct are in the range of acceptance (Hair, Black, Babin, & Anderson, 2006) and factor analysis has been grouped these 22 items into five factors. These aforesaid five factors are the five determinants of perceived risk namely; Perceived Quality and Financial Risk, Perceived Customer Service Risk, Perceived Delivery Risk, Perceived Privacy Risk and Perceived Convenience risk which explains 14.745 %, 13.007 %, 11.376 %, 10.950 % and 6.787 % variance of the total respectively and resulted into the determinant factors of perceived risk faced by online shoppers during online shopping.

Table: 4. Rotated Component Matrix

Statements	Component				
	1	2	3	4	5
I don't have enough knowledge about online shopping.					.435
I believe, good proficiency in internet is required for online shopping.					.745
Products ordered online cannot be felt, tried and experienced prior to purchase.					.685
It is difficult to find out the right product at online shopping portal.	.722				
It is difficult to assess the features of a product such as size, colour, style and quality by just looking at the picture of the product.	.665				
I might not get what I ordered through online shopping.	.616				
Online sellers may sale counterfeit goods	.483				
The information about product and vendor is not authentic.	.641				
The actual quality of product may differ from the description given at online portal.	.473				
I feel that online sellers give fake discounts and offers.	.428				
I might have to pay additional hidden charges for the use of online payment services.	.467				
Sometimes online shopping may be costlier than retail shopping.			.535		
Online sellers may disclose my personal information (e.g. email, mobile no, address etc.) to other companies.				.774	
I feel, my financial details may be misused by online shopping portals.				.775	
Online sellers may track my shopping habits and purchase history.				.702	
Product purchased from online sellers may not be delivered on time.			.482		
Product may be damaged in transportation.			.557		
I might have to pay additional charges for delivery.			.660		
The product return process of online purchase is not easy and convenient.		.660			
If the product is defective, it is difficult to get contact with customer care of online sellers.		.727			
Product warranty and guarantee offered in case of online purchase significantly differs from offline purchase.		.593			
Online shopping portals do not give money back guarantee for return or cancelled orders.		.692			
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. ^a					

The Cronbach's Alpha statistics for entire scale and each dimension of perceived risk was applied to measure the internal consistency and reliability of the scale. The Cronbach's Alpha value of entire scale was found to be 0.903. The Cronbach's Alpha value of four factors was found to be above 0.7, which implies that the measurements were reliable and consistent

(Nunnally, 1978) while the Cronbach's Alpha value of one factor was above 0.6 which is also acceptable (Shelby, L. B. 2011, Hair, et.al. 2009).

Table: 5. Reliability Statistics of Entire Scale

Cronbach's Alpha	No. of Items
.903	22

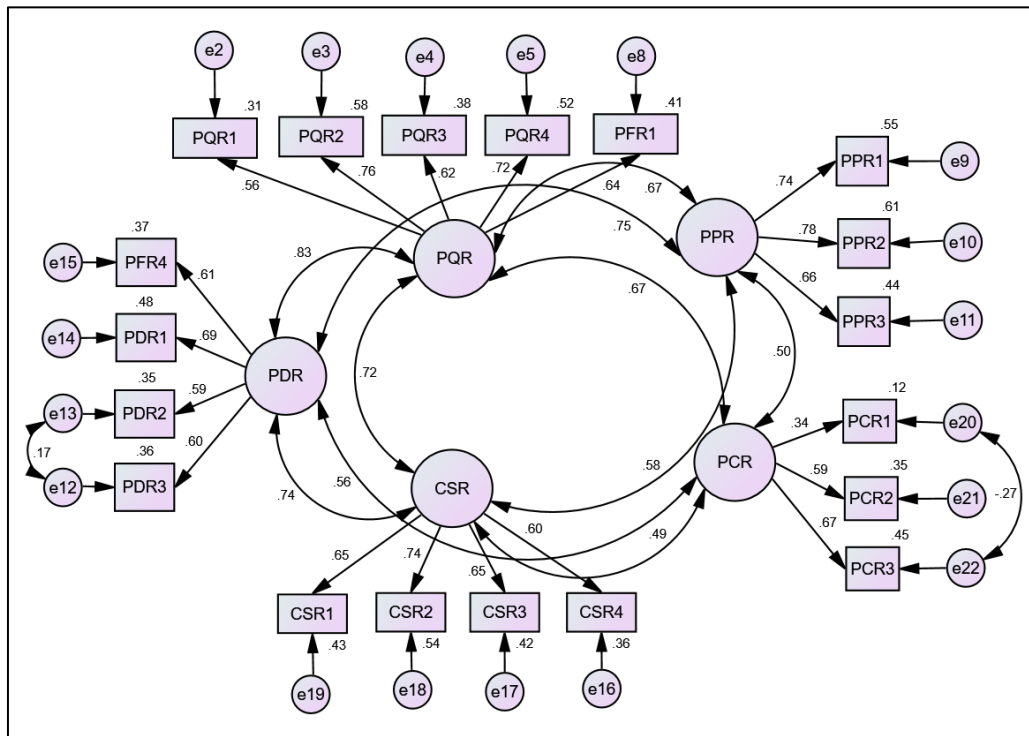
Table: 6. Factors and Reliability Statistics of Factors

Factor No.	Factors	Items	Items Loading	Cronbach's Alpha
1	Perceived Quality and Financial Risk	PCR4	.722	.826
		PQR1	.665	
		PFR1	.616	
		PQR2	.483	
		PQR3	.641	
		PQR4	.473	
		PFR2	.428	
		PFR3	.467	
2	Perceived Customer Service Risk	CSR1	.660	.752
		CSR2	.727	
		CSR3	.593	
		CSR4	.692	
3	Perceived Delivery Risk	PFR4	.535	.737
		PDR1	.482	
		PDR2	.557	
		PDR3	.660	
4	Perceived Privacy Risk	PPR1	.774	.777
		PPR2	.775	
		PPR3	.702	
5	Perceived Convenience Risk	PCR1	.435	.657
		PCR2	.745	
		PCR3	.685	

Source: Prepared by researcher

Confirmatory factor analysis (CFA) has been applied to examine the validity of measurement scales of all variables included in the proposed model which reflects major factors of perceived risk associated with the online shopping.

Fig: 1. Measurement Model



Source: Prepared by researcher

Table: 7. Fit Indices for Measurement Model

Measures of Fit Indices	Recommended Value*	Observed Value**
Ratio of Chi-square to degree of freedom (CMIN/DF)	<3.00	2.454
Goodness of Fit index (GFI)	>0.90	0.921
Adjusted GFI (AGFI)	>0.80	0.892
Tucker-Lewis Index (TLI)	>0.90	0.909
Comparative Fit Index (CFI)	>0.90	0.925
Root Mean Square Error of Approximation (RMSEA)	<0.070	0.057

*Source: Malhotra and Dash, 2011; Hair et al, 2010; Hooper et al, 2008; Hu and Bentler, 1999

** Source: Prepared by researcher

The table 7 shows complete summing-up of the model fit indices of the proposed model. The chi-square value was found to be 343.494 with degrees of freedom (df) being 140 significant at $p < 0.05$. The Ratio of Chi-square to degree of freedom (CMIN/DF) is within the acceptable range. It is observed from the table that the values of GFI and AGFI are 0.921 and 0.892 respectively which are within the acceptable range. Value of Tucker-Lewis Index (TLI) is 0.923 which is also greater than 0.90. The overall improvement of a proposed model is evaluates by The Comparative Fit Index (CFI). In the aforesaid model, value of CFI is 0.925

which is also more than threshold range i.e. 0.90 showing a good model fit. The final measure is Root Mean Square Error of Approximation (RMSEA) which allies to the residuals of model. RMSEA value is 0.057 for the model which indicating that this is a well-fitting model. The entire model fit indices and goodness of fit measures for the proposed model is within the threshold and acceptable range. Thus, it is concluded that this CFA measurement model for identification of the determinants attributes of the perceived risk faced by the online shoppers from online shopping is satisfactory and a well-fitted model.

5.0 IMPLICATIONS AND CONCLUSION

Online shopping has become an integral part of life with the intensification of internet usage. The Indian retail industry is changing very fast with the advent of online shopping. The analysis of demographic profile of the respondents reveals that the young generations are more inclined towards online shopping. Majority of online shoppers are male and single. Service holders and professionals are more inclined towards online shopping as compared to others. As far as monthly income concern majority of online shoppers fall into the ₹25000 – 50,000 category. The present study identifies the various risks faced by the online shoppers from online shopping. It is found that there are five major determinants attributes of perceived risk of consumers from online shopping which are; Perceived Quality and Financial Risk, Perceived Customer Service Risk, Perceived Delivery Risk, Perceived Privacy Risk and Perceived Convenience risk. The findings of study provide practical implications for online retailers as it helps in better understanding of various types of perceived risk and assists in developing effective marketing strategies to reduce these risks and make the online shopping environment less risky. Besides, the responsible authority should also play a significant role for reducing the risk perception of online shoppers by providing better regulation related to online commerce industry.

7.0 LIMITATION AND FURTHER RESEARCH

The primary limitation is that this study is conducted only among the population of Delhi and NCR. Hence the conclusions drawn from the study cannot generalize to the entire online shopping population. The secondary limitation is that the respondents answered survey questions based on various online shopping websites & services rather than the specific online portal, business type and product category as the different factors of buying decision process may lead to change in buyer behaviour.

Future research could be done by considering the effect of various factors like website design interface, security, reliability and privacy factors of online shopping portals. Because all these

factors are shape overall perception of customers towards online shopping. The consumer behaviour differs due to various cultural, social and geographic factors. Hence future research should be undertaken to investigate the influence of these factors on online shoppers.

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