

## A study on perceived risk in online shopping of youth in Pune: A factor analysis

by

Mr. Vinay Kumar<sup>[a]</sup> & Dr. Ujwala Dange<sup>[b]</sup>

### Abstract

*Although the online shopping is on rise on daily basis, but online shopping is not done by everybody. Perceived risk is one of the big hurdles in online shopping. Measuring this aspect & finding the details of it & implementing the ways to reduce it will increase online shopping. The current study is done by the researchers to understand the impact of perceived risk on youth of Pune on their online shopping. To study, factor analysis as research tool has been taken. The finding of the study are the buyers have maximum perceived risk regarding financial risk, social risk, time risk and last but not the least, security risk. Non shoppers give maximum value to financial risk and Security risk which are common to shoppers also additional two risks are physical risk and psychological risks among non shoppers.*

**Key Words:** Online shopping, Buying Behaviour. Perceived Risk, Youth, Pune.

<p><sup>[a]</sup> <b>Mr. Vinay Kumar</b> Asst. Professor &amp; research Scholar, S. B. Patil Institute of Management, Pune University of Pune, Pune vinaykumar.sbpim@gmail.com 8983020882</p>	<p><sup>[b]</sup> <b>Dr. Ujwala Dange</b> Director, Sarvapalli Radhkrishnan College of Business Management, Nagpur RTM Nagpur University, Nagpur ujwala_dange@rediffmail.com 9823719865</p>
---	---

### 1. Introduction

Although online shopping is in boom as compared to recent past but only less than 1% is the share of e-retailing among all the formats of retailing. The major reason behind this negligible figure is the perceived risks among the buyers as well as non-buyers. They fear from various associated elements, viz., risk in financial transaction, online security risk, social image risks, time loss risk, privacy risk, psychological risk or product performance risk. To understand the type of risk impacts in the behaviour among shoppers as well as non shoppers to target and convince them to shop more, this study is carried out.

### 2.0 Literature review

#### 2.1 Online Perceived Risk: Definition

Perceived risk has two components: uncertainty (the likelihood of unfavorable outcomes) and consequences (the importance of a loss) (Bauer 1960) – (Michel Laroche, 2004). The notion of perceived risk was originally introduced by Bauer as a psychological, subjective construct to explicate phenomena's such as information seeking and brand loyalty (Bauer, 1967). Perceived risk is defined as “the nature and amount of uncertainty or consequences experienced by the consumer in contemplating a particular purchase decision” (Rich, 1964).

Perceived risk is the consumer's perception of the uncertainty and concomitant adverse consequences of buying a product or service (Staelin, 1994). Bauer (1960) in his seminal work on risk taking set forth the idea that consumer behavior involves risk in the sense that any action of a consumer will produce consequences that he or she views with some degree of uncertainty – (Linda C. Ueltschy, 2004). Perceived risk, the uncertainty and consequences of the decision – (Michel Laroche, 2004).

Perceived risk is defined as “the amount that would be lost if the consequences of an act were not favorable, and the individual’s subjective feeling of certainty that the consequences will be unfavorable (Adobor, 2005). Perceived risk is also defined as “the consumer’s perception of the uncertainty and concomitant adverse consequences of buying a product or service (Staelin, 1994). In context of online shopping, perceived risk is defined as “the expectations of any loss or any negative consequences as a result of online shopping” (A. M. Hassan, 2006).

In the psychology literature, perceived risk has been described as consisting of a set of possibly interrelated components: financial, performance, physical, psychological, social, and time and convenience, yielding a separate measure of overall perceived risk. (Linda C. Ueltschy, 2004).

## **2.2 Perceived risk & Internet shopping**

The majority of research on perceived risk is focused on traditional purchasing situations. However, Internet shopping is much different than shopping in stores. Internet shopping technologies are essentially self-service technologies that offer the benefits of round-the-clock convenience, ubiquitous availability, time and money savings, and a reduction in the anxiety caused by judgmental service representatives (Bitner, 2000). Of course, there are disadvantages to Internet shopping such as system complications, computer phobia, and loss of pleasure and social interaction. (Dr. Lawrence F. Cunningham, 2004).

If a purchase is perceived as risky, consumers will employ strategies to reduce the perceived risk until it is below their level of acceptance risk, or if they are unable to do so, withdraw from the purchase (Staelin, 1994). Within this context, risk is distinguished between inherent and handled risk (Bettman, 1973). The former refers to the risk before and the latter to the risk after the consumer has applied risk –reduction strategies. Thus, inherent risk is a determinant of risk, whereas handled risk is the result thereof.

Moreover perceived risk influences every stage of the consumer decision-making process (Mitchell, 1992). Internet is an open environment. As a result, online applications or technology is exposed to security threats such as worms, crackers, viruses, spoofing and password sniffing, theft of funds, breaches of personal privacy and attacks by hackers (H. P. Lu, 2005). Consequently personal security may be threatened when people use online applications. Intangible nature of online environment also adds to perceived risk. Intangibility is defined as “lack of physical evidence and the degree to which a product or service cannot provide a clear concrete image” (M. Laroche, 2003). In a physical store, consumers can see, smell, touch, taste and evaluate quality of a specific product. In online shopping all this is absent. So, it becomes very difficult for consumer to judge a product without inspection. In case of apparel shopping, there may be problem related to fiber content, fit and color as their inability to inspect or try on the garment physically (Stoel, 2005).

It is theorized that when perceived risk falls below an individual’s acceptance value, it has little effect on intended behavior and is essentially ignored (Greatorex & Mitchell 1993). On the other hand, an extremely high level of perceived risk can cause a consumer to postpone or avoid a purchase entirely. The extent of the exposure depends on the importance or magnitude of the goal, the seriousness of the penalty for not attaining the goal, and the amount of means committed to achieving the goal (Rich, 1964); (Staelin, 1994), (Dr. Lawrence F. Cunningham, 2004). Consumers are thought to have “an inherent predisposition to avoid risk in purchasing situations” (Pavlou, 2003) alludes to the “implicit uncertainty of the ecommerce environment.”

## **2.3 Types of Perceived Risk in context of Online Shopping**

Perceived risk is usually measured as a multidimensional construct: physical loss, financial loss, psychological loss, time loss, performance risk, and social risk. (Dr. Lawrence F. Cunningham, 2004). Perceived risk is multifaceted and its essence cannot be captured by a single concept (H. P. Lu, 2005). The perceived risk scale by (Kaplan., 1972) was used. This scale deals with five

components of perceived risk: financial, performance, physical, psychological and social. Additionally, a sixth item in the scale also deals with ‘overall’ risk. (Chaudhuri, 1998). There are variety of risks that have been suggested, including financial, performance, physical, social, convenience, psychological, source and privacy (L. B. Kaplan, 1974). Fatma A. Mohamed finds five dimensions of perceived risk as follows- performance risk, time-loss risk, social risk, psychological risk, and source risk. (Mohamed, 2011). Authors (Kaplan, 1994) have described six components of perceived risk: financial risk, performance risk, social risk, psychological risk, physical risk and time loss risk.

Perceived risk has multiple dimensions, including social, financial, physical, psychological, time, and performance risks. Different types of risk exist, namely, financial, performance, time, physical, psychological, and social risks. (Michel Laroche, 2004). The types of risk, Kaplan and Szybillo and Jacoby (1993) classify perceived risk as a highly multidimensional construct that comprises a financial, social, psychological, physical, and a performance component. Another type of risk has been introduced by (Roselius, 1971). He identifies time loss as the risk of wasting time, convenience and effort if some product fails, and therefore has to be adjusted, repaired or replaced. Mitchell and Greatorex (1993) stress the importance of psychological consequences. According to their findings, psychological risk plays an important mediating function for other risk types, as the psyche translates any kind of perceived risk into a feeling of discomfort for the individual- (Eggert, 2006).

Although Bauer’s initial work (1960) viewed perceived risk as a two-dimensional construct (i.e., uncertainty and negative consequences), more recent work views it as a multidimensional construct including financial risk, performance risk, physical risk, psychological risk, and social risk (Kaplan., 1972). Several other potential sources of perceived risk include time risk (Roselius, 1971), source credibility risk (McCorkle, 1990) and privacy risk (Elliot, 1995) – (Fatma A. Mohamed, 2011).

According to different researchers description of following types of Perceived Risk are as follows- Financial Risk, Performance Risk, Physical Risk, Psychological Risk, Social Risk, Time Loss Risk, Source Risk, Privacy Risk

**i. Financial risk**

Financial risk pertains to the loss of money in the case of a poor product/ service choice. (Linda C. Ueltschy, 2004). Financial risk is the potential loss of money associated with the item purchase, and performance risk is the potential loss due to item failure after purchase. (Michel Laroche, 2004). Financial risk: Related to the loss of money in the case of a bad purchase (Cases, 2002). Financial risk is the perceived financial concern resulting from a shopping activity (ÇENGEL, 2012).

**ii. Product performance risk**

Product performance risk is defined as the loss incurred when a product or brand does not perform as expected. (Linda C. Ueltschy, 2004). Performance risk: Related to the functional aspects of the product (Cases, 2002). Performance risk is the risk of not meeting the expected performance standards. (ÇENGEL, 2012).

**iii. Physical risk**

Physical risk relates to the safety and health of the individual. (Linda C. Ueltschy, 2004). Physical risk: Related to safety or health (Cases, 2002). Physical risks are the risk related with its usage such as health and security concerns. (ÇENGEL, 2012).

**iv. Psychological risk**

Psychological risk reflects an individual's disappointment in him/her in case of a poor product/service choice. Lastly, (Linda C. Ueltschy, 2004). Psychological risk is the potential loss of self-image or self-concept as the result of the item purchase. (Michel Laroche, 2004) Psychological risk: Reflects an individual's disappointment in him/herself (Cases, 2002). Psychological risks are the risks that are undertaken by the consumers as a result of the product not being identified by them in terms of their personal image. (ÇENGEL, 2012).

**v. Social risk**

Social risk reflects the disappointment in the individual by his friends in case of a poor product/service choice. (Linda C. Ueltschy, 2004). Social risk can be defined as the potential loss of esteem, respect, and/or friendship offered to the consumer by other individuals (Murray and Schlacter 1990) and is more likely to occur with services because of the service encounter (Michel Laroche, 2004) Social risk: Reflects disappointment in the individual among friends (Cases, 2002). Social risk is the risk undertaken by the different members of the society in terms of positive or negative perception. (ÇENGEL, 2012).

**vi. Time/ convenience risk**

Time/ convenience risk relates to the time spent for the purchase of a product and the time wasted in case of a poor product/service choice. (Linda C. Ueltschy, 2004). Time risk: Related to the time spent for the purchase of a product and the time wasted in the case of a bad purchase (Cases, 2002). Time risk is the potential loss of time and effort associated with purchasing the item (Michel Laroche, 2004). Time is the amount of hours spent during the shopping activity (ÇENGEL, 2012).

vii. **Source Risk-** Several other potential sources of perceived risk, source credibility risk (McCorkle, 1990) – (Fatma A. Mohamed, 2011).

viii. **Privacy Risk-** Several other potential sources of perceived risk include privacy risk (Elliot, 1995) – (Fatma A. Mohamed, 2011).

### **3. Methodology**

#### **3.1 Population and Sample size**

As the central focus of this study is on online shoppers, the target population of this study is restricted to individual online shoppers. The number of online shoppers in Pune has risen tremendously over the past decade. According to the Nielsen Global Online Survey (2008) in regard to online shopping habits, more than half of the Internet users around the world have made at least one purchase online. 267 was the sample size from Pune city. The data was collected through online medium. The sampling method was convenient sampling.

#### **3.2 Instrument development**

A structured questionnaire was developed to measure the perceived risk having all the 8 types of perceived risks as suggested by the extensive review of literature. A seven-point Likert scale ranging from (1) "strongly disagree" to (7) "strongly agree" was employed.

#### **3.3 Data analysis**

For the purpose of data analysis, the data were analysed using the Statistical Package for Social Sciences (SPSS). Factor Analysis was used to analyse the studied variables. In the preliminary descriptive analyses were conducted.

## 4.0 Findings

### 4.1 Profile of the respondents

In Pune out of 267 respondents; the percentage of the people of age group 18- 25 years is maximum, i.e., 56%, the percentage of Postgraduate is more (67%), as compared to other education levels, followed by Bachelors degree. The percentage of Service holders as occupation is more (38%), as compared to other occupations followed by Students. The percentage of people with monthly income ranging between 0- 10000 is maximum i.e. 34%, followed by 10000-30000.

In Pune out of the 205 shoppers the percentage of people with age 18- 25 years is maximum i.e. 53%, followed by 26-30 years. The education qualification of shoppers with Postgraduate Degree is maximum i.e. (68%) respectively, followed by bachelor degree. Service as an occupation is maximum i.e. (40%), followed by 'Student'. 10000-30000 Rs. per month is the maximum income group (33%), followed by 0- 10000 Rs. per month (30%) in Pune.

In Pune; the percentage of non shopping respondents having age group 18- 25 years is maximum, i.e., (65%), followed by 26-30 age group, The percentage of Post Graduate respondents is maximum, i.e., (63%), followed by Bachelor Degree. , The percentage of Students by profession are maximum, i.e., (47%), followed by Service holders. The percentage of respondents having earning of 0-10000 Rs. per month is maximum, i.e., (50%), followed by 10000-30000 Rs. Per month.

### 4.2 Factor Analysis on shoppers

To assess the underlying structure of barriers to buy online from the perspective of Internet users who do purchase online, exploratory factor analysis was performed for the buyers group. All 11 variables were included in the analysis for deriving the factor solution was employed. The variables were-

- 1) Online shopping is not risky.
- 2) No problem to share my banking details while shopping online.
- 3) I believe that the online retailer will not share my banking information with others.
- 4) I believe that the online retailer will not share my personal information with others.
- 5) I seek a third party certification (Visa/ Verisign/ Trust-e etc.) on the site while shopping.
- 6) I have never received a defective product in online shopping.
- 7) I shop only from reputed online retailers.
- 8) I know how to retrieve my money if my transaction fails.
- 9) When I return product the online retailers take their product/s back easily.
- 10) The products are delivered to me within the time limit promised by the e-retailers.
- 11) I do not mind to wait further for product/s to be delivered beyond the time limit promised by the e-retailers.

**Table 1.1: KMO and Bartlett’s Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.732
Bartlett's Test of Sphericity	Approx. Chi-Square	535.625
	df	55
	Sig.	.000

**Table 1.2: Total Variance Explained for barrier among buyers**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.307	30.068	30.068	3.307	30.068	30.068
2	1.578	14.346	44.414	1.578	14.346	44.414
3	1.061	9.644	54.058	1.061	9.644	54.058
4	1.019	9.259	63.317	1.019	9.259	63.317
5	.901	8.192	71.509			
6	.759	6.897	78.406			
7	.646	5.875	84.281			
8	.561	5.101	89.382			
9	.513	4.660	94.042			
10	.438	3.982	98.024			
11	.217	1.976	100.000			

**Table 1.3: Rotated Component Matrix of barrier among buyers**

	Component			
	1	2	3	4
VAR00003	.852	.071	.209	.046
VAR00004	.792	.111	.022	.227
VAR00002	.754	-.030	.000	-.099
VAR00001	.563	.313	.141	-.001
VAR00010	-.009	.770	.005	.177
VAR00006	.074	.687	.095	-.097
VAR00009	.135	.681	.101	.190
VAR00008	.405	.504	.098	-.199
VAR00005	.140	-.025	.877	.165

VAR00007	.112	.437	.673	-.162
VAR00011	.063	.104	.057	.921

To assess the underlying structure of barriers to buying online from the perspective on Internet users who do purchase online, an exploratory factor analysis was performed for the buyers groups. All 11 variables were included in the analysis and the same criteria for deriving the factor solution were employed.

The factor solution yielded four factor structures and accounted for 63.31% of the total variance explained in the analysis. Factor 1 here was Financial Risk. Factor 2 was Social Risk. Factor 3 consisted of Time Risk and factor 4 consisted of Security risk

This analysis reveals that buyers place the highest importance on the financial risk, Social Risk, Time risk and Security risk.

### 4.3 Factor analysis on non shoppers

The second factor analysis employed equal criteria to derive the factor solution and was performed among the non-buying Internet users. All 11 variables were included in the analysis for deriving the factor solution was employed. The variables were-

- 1) I find online shopping risky.
- 2) I don't like to share my banking details while shopping online.
- 3) The online retailer may share my banking information while shopping.
- 4) The online retailer may share my personal information while shopping.
- 5) I have no faith on a third party certification (Visa/ Verisign/ e-trust etc.) on the site for shopping.
- 6) I may receive a defective/ unexpected product in online shopping.
- 7) I may not shop even from reputed online retailers.
- 8) I don't know how to retrieve my money if my transaction fails.
- 9) When I shall return a product, the online retailers may not take their product/s back easily.
- 10) The products may not be delivered to me within the time limit promised by the online retailers.
- 11) I can not wait for merchandise to be delivered by the e-retailers.

**Table 1.4: KMO and Bartlett's Test of barriers among non-buyers**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.697
Bartlett's Test of Sphericity	Approx. Chi-Square	198.762
	df	55
	Sig.	.000

**Table 1.5: Total Variance Explained for barriers among non-buyers**

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.487	31.704	31.704	3.487	31.704	31.704
2	1.793	16.303	48.008	1.793	16.303	48.008
3	1.224	11.123	59.131	1.224	11.123	59.131
4	1.064	9.670	68.801	1.064	9.670	68.801
5	.886	8.055	76.856			
6	.682	6.203	83.059			
7	.534	4.850	87.909			
8	.439	3.990	91.899			
9	.342	3.109	95.009			
10	.285	2.591	97.599			
11	.264	2.401	100.000			

**Table 1.6: Rotated Matrix for barriers among non-buyers**

	Component			
	1	2	3	4
VAR00006	.859	.141	.047	-.095
VAR00009	.650	.133	.411	.114
VAR00010	.587	-.357	.346	.291
VAR00003	.110	.796	.335	.147
VAR00002	-.145	.776	.390	.119
VAR00004	.337	.727	-.355	.126
VAR00007	.202	.026	.680	-.075
VAR00001	-.005	.202	.656	.404
VAR00008	.300	.235	.501	.165
VAR00005	-.089	.209	.125	.849
VAR00011	.548	.032	.024	.701

With 68.80% of explained variance, overall, the financial risk and Security risk factors were again obtained. Also out of the 11 variables, two loaded on different factors in the initial factor solution. The variables Physical risk and psychological risks are new in the second analysis. Furthermore the item functional risk and source risk were not loaded on any of the factors in this analysis.

### 5. Findings and Conclusion.

The buyers have maximum perceived risk regarding financial risk, Social Risk, Time risk and last but not the least, Security risk. Non shoppers give maximum value to financial risk and Security risk which are common to shoppers also. Two new variables are Physical risk and psychological risks among non shoppers. The functional risk and source risk as suggested by the review of literature were not significant in our study. The suggestion may be give based on our findings that the online vendors definitely concentrate more on non-shoppers as compared to the existing shoppers and accordingly concentrate more to improve the perception of non buyers as well as buyers on following perceived risks- financial risk, Security risk, Social Risk and Time risk.

## 6. Bibliography

- 1)M. Hassan, M. B. (2006). *Conceptualization and measurement of perceived risk in online shopping. Marketing Management Journal* , 138-147.
- 2)Adobor, H. (2005). *Trust as sensemaking: the microdynamics of trust in interfirm alliances. Journal of Business Research.* , 330-337.
- 3)Bauer, R. A. (1967). *Conceptualization and measurement of perceived risk in online shopping. Marketing Management Journal.* , 138-147.
- 4)Bettman, J. R. (1973). *Perceived risk and its components. Journal of Consumer Research* , 184-190.
- 5)Bitner, V. A. (2000). *Services marketing: Integrating customer focus across the firms” in Ueltschy L.C., Krampf R.F.and Yannopoulos P. (2004), “A Cross –National Study of Perceived Consumption Risk Towards Online (Internet) Purchasing . The Multinational Business Review* , 59- 82.
- 6)Cases, A.-S. (2002). *Perceived risk and riskreduction strategies in Internet shopping. Int. Rev. of Retail, Distribution and Consumer Research* , 375–394.
- 7)ÇENGEL, F. Y. (2012). *The Perceived Risk And Value Based Model Of Online Retailing. Online Academic Journal of Information Technology* .
- 8)Chaudhuri, A. (1998). *Product class effects on perceived risk: The role of emotion. Intern. J. of Research in Marketing* , 157–168.
- 9)Dr. Lawrence F. Cunningham, D. J. (2004). *ASSESSING PERCEIVED RISK OF CONSUMERS IN INTERNET AIRLINE RESERVATIONS SERVICES. Journal of Air Transportation* .
- 10)Eggert, A. (2006). *Intangibility and Perceived Risk in Online Environments. Journal of Marketing Management* , 553-572.
- 11)Fatma A. Mohamed, A. M. (2011). *CONCEPTUALIZATION AND MEASUREMENT OF PERCEIVED RISK OF ONLINE EDUCATION. Academy of Educational Leadership Journal* .
- 12)H. P. Lu, C. L. (2005). *An empirical study of the effect of perceived risk upon intention to use online applications. Information Management & Computer Security* , 106-120.
- 13)H. P. Lu, C. L. (2005). *An empirical study of the effect of perceived risk upon intention to use online applications. Information Management & Computer Security* , 106-120.
- 14)Kaplan, J. J. (1994). *"The components of perceived risk" in Soman S.M. and Victor T.F.(1994), "Customer's risk perceptions of electronic payment systems" . International Journal of Bank Marketing* , 26-38.
- 15)Kaplan., J. J. (1972). *"The Components of Perceived Risk” in Simon S.M. and Victor T. F. (1994), "Customer's risk perceptions of electronic payment system". International Journal of Bank Marketing* , 26-38.
- 16)L. B. Kaplan, J. S. (1974). *Components of perceived risk in product purchase. Journal of Applied Psychology* , 287-91.
- 17)Linda C. Ueltschy, R. F. (2004). *A Cross-National Study Of Perceived Consumer Risk Towards Online (Internet) Purchasing. The Multinational Business Review* .
- 18)M. Laroche, J. B. (2003). *How intangibility affects perceived risk: the moderating role of knowledge and involvement. Journal of Service Marketing* , 122-140.
- 19)Michel Laroche, G. H. (2004). *Exploring How Intangibility Affects Perceived Risk. Journal of Service Research* .
- 20)Mitchell, V. W. (1992). *Understanding consumers’ behavior: can perceive risk theory help? Management Decision.* , 26-31.
- 21)Mohamed, F. A. (2011). *Conceptualization and measurement of perceived risk of online education. Academy of Educational Leadership Journal* , 1-16.
- 22)Pavlou. (2003). *Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. 101-134.*
- 23)Rich, D. F. (1964). *Perceived risk and consumer decision making-the case of telephone shopping. Journal of Marketing Research.* , 32-49.
- 24)Roselius, T. (1971). *Consumer rankings of risk reduction methods. Journal of Marketing* , 56-61.
- 25)Staelin, G. R. (1994). *A model of perceived risk and intended risk –handling activity. Journal of Consumer Research* , 119-134.
- 26)Stoel, J. P. (2005). *Effect of brand familiarity, experience and information on online apparel purchase. International Journal of Retail & Distribution Management* , 148-160.