

Perceived Risk and Online shopping -A Factor Analysis Approach

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Abstract

In this e generation era, changes in customer lifestyles, technological advancements, increases in customer income and education, and world-wide rapid financial development are major reasons for rapid growth of e-commerce. The use of the Internet as a shopping or purchasing vehicle has been growing at an impressive rate throughout the last decade. The ability to measure different dimensions of online shopping would take Indian e-tailers to a great height in maximizing both customer satisfaction and profits. The present study identifies the factors of perceived risk in online shopping in Indore city.

The study is broadly based on primary data collected from a sample of 410 respondents from Indore. Exploratory Factor Analysis revealed five factors of perceived risk in online buying. This study would be a help to those currently offering/aspiring to offer their products, including goods and services, through online channel to consumers in Indore city. Through this study, the e-tailers and policy makers can ensure designing and enforcement of marketing and electronic tools that may help the consumers in Indore city to overcome their perceived risk in online shopping. This include assuring delivery of ensured goods and services, making available an easy goods return process, minimizing monetary threats and developing a well secured framework of e-commerce technology for online buying in Indore. With all these being adhered to, development of a safe and stable future of online buying in Indore may be assured.

Keywords:

E-commerce, Online Shopping, Perceived Risk.

Introduction

The last two decades have witnessed the rising internet and mobile phone penetration in India and has changed the way of doing business and communication. E-commerce is relatively a novel concept. It is, at present, heavily leaning on the internet and mobile phone revolution to fundamentally alter the way businesses reach their customers. While in countries such as the US and China, e-commerce has taken significant strides to achieve sales of over 150 billion USD in revenue, the industry in India is, still at its infancy. However over the past few years,

the sector has grown by almost 35% CAGR from 3.8 billion USD in 2009 to an estimated 12.6 billion USD in 2013 (Assochem, 2014).

According to CRISIL report, 2014, India's online retail industry has grown at a swift pace in the last 5 years from around Rs 15 billion revenues in 2007-08 to Rs 139 billion in 2012-13, translating into a compounded annual growth rate (CAGR) of over 56 per cent. The 9-fold growth came on the back of increasing internet penetration and changing lifestyles, and was primarily driven by books, electronics and apparel. CRISIL Research expects the buoyant trend to sustain in the medium term, and estimates the market will grow at a healthy 50-55 per cent CAGR to Rs 504 billion by 2015-16. The entry of new players in niche segments such as grocery, jewellery and furniture, along with large investments by existing players in the apparel and electronics verticals, will be the drivers.

According to a report of ASSOCHAM (2011), online retailing in India is likely to reach Rs. 7,000 crore mark by 2015 due to increasing penetration of technology enablers like internet, broadband, 3G, PCs, laptops, smart-phones, tablets, dongles etc. Further young demographics and changing consumer lifestyles seeking the convenience e-tailing offers- in terms of access (ease and time), decision making (information, ease of making choice and time), transaction (ease and time) and timing (flexibility) are also responsible for e-tailing growth.

The growth of online retail was partially driven by the metamorphosis in urban consumer lifestyle and need for convenience. Online retail in India developed further with the launch of multiple online retail websites by entrepreneurs who looked to differentiate themselves by enhancing customer experience and establishing a strong market presence.

Perceived Risk in Online Shopping

Online shopping is a new channel to purchase products or services on Internet. This novelty to consumers might result in some problems. Perceived risk is the uncertainty that consumers face when they cannot foresee the consequences of their purchase decisions (Schiffman et al., 2007). Perceived risk has been taken as important factor influencing online buying. The term perceived risk means the individual's subjective belief about potentially negative consequences from his/her decision. In other words, "perceived" is used as opposed to objective outcome distributions of an alternative or a product class with that a consumer is associated.

Bauer (1960) first introduced the concept of perceived risk to consumer behavior research in order to explain such phenomena as information seeking, brand loyalty, opinion leaders, reference groups and pre-purchase deliberations.

Cox and Rich (1964) further explained perceived risk and included two factors, uncertainty and adverse consequences. It reflects customer's subjective belief about the probability of a negative outcome from any purchase decisions in terms of functional risk, physical risk, financial risk, social risk, psychological risk or time risk (Suresh and Shashikala, 2011). Financial risk refers to the probability that a purchase results in loss of money or kind. Performance risk refers to the probability that a purchased product results in failure to function as expected. Social risk refers to the probability that a purchased product results in disapproval by family or friends. Psychological risk refers to the probability that a product results in inconsistency with self-image. Physical risk refers to the probability that a purchased product results in personal injury and time risk refers to the probability that a purchase results in loss of time to buy or retain the product (Naiyi, 2004). Overall, perceived risk represents an aggregated impact of these various factors (Kaplan, *et al.*). Consumer perception of these risks varies, depending on the person, the product category, the shopping situation (i.e., traditional brick-and-mortar retail stores, online, catalog, direct mail or door to door sales) and also with the culture. Perceived risk is also said to influence the consumer's likelihood of trying new products or services.

Literature Review

In the past studies it was found that consumers accept the internet as new medium of purchasing with number of benefits but still they realized that the uncertainties involved with any purchase process influence their purchase intention. (Lee & Tan, 2003; Tan, 1999, Samadi and Najadi, 2009)). This is not surprising, since studies have consistently shown that consumers perceive higher risks in non-store shopping formats, such as telephone shopping (Akaah & Korgaonkar, 1988), mail order (Van den Poel & Leunis, 1999), catalog (Eastlick & Feinberg, 1999), and direct sales (Peterson, Albaum, & Ridgway, 1989). Some researchers like Novak et al., 2000; Molina-Castillo and Lopez-Nicolas. 2007; Vellido, *et al.*, 2000) found that perceived risk has a negative influence on consumers' attitudes or intentions to purchase online. These researchers suggested that computer knowledge does moderate the relation between perceived risk in online shopping and consumer purchase intention. Consumers with greater computer experience are found to be more favorably inclined to shopping in cybermalls in particular (Bhatnagar, et al., 2000). A more positive online shopping experience led to consumers' less perceived purchasing risk level in Internet and a higher perceived risk led to less future purchasing intention from Internet (Samadi and Najadi, 2009).

Risk Dimensions

According to Lee and colleagues (2001), two main categories of perceived risk emerge in the process of online shopping. The first is the perceived risk associated with product/service and includes functional loss, financial loss, time loss, opportunity loss, and product risk. The second is the perceived risk associated with context of online transactions, and includes risk of privacy, security, and nonrepudiation. Among them, the influence of financial risk, product risk, and concern for privacy and security is significant (Senecal 2000; Borchers, 2001; Bhatnagar, et al., 2000, Shergil and Chen, 2005). Higher product risk decreases Internet purchasing and the product risk is higher for high priced products or technically complex products like hardware, software, CDs, and books, therefore these products are less likely to be purchased online. (Bhatnagar, et al, 2000).

Privacy and security risk was also discussed by previous researchers in the context of online shopping. It was found that an anxiety regarding security of personal information had a negative influence on online shopping and decreases frequency of online shopping. (Azadavar, et al. 2011, Doolin et al., 2005, Hoffman et al. 1999). Customers are concerned about unauthorized acquisition of personal information during Internet use or the provision of personal information collected by companies to third parties. (George 2002; Furnell and Karweni 1999, Hoffman et al., 1999 and Wang et al, 1998). Customers specially Indian women are afraid in disclosing their credit card number online (Adapa, S, 2008). Similarly for Malaysian consumers the issue of security and trust over Internet is the most overwhelming barrier that limits the adoption of electronic commerce (Delafrooz, et al. 2011)), where as in the context of UK women who purchase apparel online are more willing to provide credit card and purchasing information over Internet if the retailers were deemed reliable and the perceived risk features like lack of security', 'privacy of information' and 'online fraud' do not deter them from online shopping. (Hirst and Omar, 2006)

Some other dimensions of perceived risk has also been identified such as perceived health risk, perceived quality risk, perceived time risk, perceived delivery risk and perceived after sale risk (Zhang L, et al., 2012). Economic, social, and performance risk was also considered risk dimensions (Jarvenpaa and Todd, 1996–1997). Performance risk was related to the functional aspects of the product whereas psychological risk was described as reaction of an individual's disappointment in him/herself. (Cases, 2002). Physical risk Related to safety or health of an individual where as social risk was described as disappointment in the individual among friends. Roselius (1971) identified four different forms of risk: hazard loss, money loss, ego loss and time loss.

Perceived Risk and Gender

Perceived risk also differ according to gender. Garbarinoa and Strahilevitzb(2004) observed in their study that compared to men, women will be more likely to increase their willingness to purchase online if they receive a site recommendation from a friend and having a site recommended by a friend leads to both a greater reduction in perceived risk and a stronger increase in willingness to buy online among women than among men where as Adapa, S (2008) studied that security issues such as disclosure of credit card numbers were major concerns for Indian women. Hirst and Omar (2006) also observed that female internet users use internet with interest and confidence as compared to male internet users.

Gap in Literature and Rationale of the Study

The analysis of current literature relating to the perceived risk in online buying has highlighted distinct gaps that additional research could attempt to fill. Firstly, as reported in earlier sections, most of the previous studies relating to exploring various dimensions of perceived risk in online buying have been conducted in the perspectives of different developed countries with greater internet penetration such as the United States, Canada, Taiwan, Hong Kong, China, Singapore and a very little work has been undertaken for developing countries like India. Though some attempts have been made in Indian context too, but majority of these works relates to metros and tier I cities (see Suresh and Shashikala, 2011, Prasad and Aryasri, 2009). The researchers could come across no such well known work relating to tier II cities or mediocre towns in general and specifically for Indore city. Secondly, most of these empirical studies were conducted by drawing samples of young internet users who were students, who might not be real buyers. So, the literature review indicates gaps in the research in terms of dimensions behind perceived online buying in cities and towns like Indore, which may be altogether different from factors affecting perceived risk in online buying of buyers in well developed cities and countries.

Standing on this platform, the rationale behind conducting this research work lies in exploring factors behind perceived risk in online buying in cities like Indore and thereby confirming or disconfirming the similarities of these factors with those earlier explored and related to cities and countries with different stage of development. The findings will not only add to the literature but will also provide a basis for future studies on perceived risk in online buying. Simultaneously, this work will also generate useful insights for e-marketers of tomorrow targeting consumers of mediocre and small towns, which is been forecasted to be major market segment of time ahead.

Research Objective

The basic objective of this research work is to explore dimensions of perceived risk in online buying in Indore.

Research Methodology

Population and Sample

The target population in this study construed of all internet users in Indore city, who use internet for different purpose and are aged 18 years and above. The sample unit in this study is the individual internet user. A total of 410 respondents have finally been considered for the purpose of assessing perceived risk in online buying in Indore. Sampling Method can be best described as convenient cum judgmental non probability sampling method. Initially 480 questionnaires were distributed online and offline during April-October 2014. Out of the same, 434 questionnaires were received back and 410 questionnaire were finally considered for factor analysis.

Development of the Instrument

In order to collect the data, a self structured questionnaire was developed on five point likert pattern. The variables for purpose were identified through extensive survey of existing literature on online shopping by various researchers including Shergill and Chen (2005), Jarvenpaa and Todd (1997) and Hoffman et al. (1999). A total of 35 elements were identified to design a questionnaire. Thereafter, a focus group was conducted including experts from academia, industries, information technology, etc. Based on

recommendations of focus group, these items were reduced down to 23. This was followed by a pilot study of scale in order to assess its reliability and validity. All internal consistency reliabilities based on Cronbach' alphas for measurement items were greater than 0.70 and were considered to be good and acceptable. As no major change was observed in the alpha value for scale, it was finally decided to consider all these 23 items in final questionnaire. Along with this, the questionnaire also included close ended questions relating to demography and internet usage habits of the respondents.

The questionnaire was divided in two parts. The first part of the questionnaire included questions about demographic profile of the respondents. Second part of the questionnaire included questions/variables related with perceived risk in online buying. All the variables were required to be marked on likert scale in the range of 1 – 5, where 1 represented strongly disagree and 5 represented strongly agree.

Data Analysis

The survey results are organized as follows. In the first section, the demographic profile of the respondents is presented. The second section presents the results of data analysis and conclusions.

Demographic Characteristics

The table below exhibits the demographic traits associated with the respondents considered for the purpose of this study:

Table 1: Demographic characteristics of respondents

Variable	Classification of variables	Frequency	Percentage
Time spent for internet access	Less than 1 hour	135	32.9%
	1-2 hours	110	26.8%
	More than 2 hours	165	40.2%
Frequency of internet usage	Almost Everyday	256	62.4%
	Some times a week	54	13.1%
	sometimes a month	20	4.8%
	Casually	80	19.5%

Its how long you have been using internet ?	Less then1 year	60	14.6%
	1-3 years	128	31.2%
	More then 3 years	219	53.4%
Internet Access	At home	115	28%
	At work	226	55.1%
	At the university	46	11.2%
	Other	13	3.1%
Have you ever bought any product (excluding services) from the Internet?	Yes	220	53.6%
	No	190	46.3%
Age :	18-30	191	46.5%
	31-50	111	27%
	Above 50	108	26.3%
Marital Status	Marrried	119	29%
	Single	291	70.9%
Income(Annual)	No Income but pocket money	30	7.3%
	Less than Rs.3 Lacs	136	33.1%
	Rs.3 Lacs to 5 Lacs	166	40.4%
	Rs 5 Lacs to 10 Lacs	48	11.7%
	More thenRs. 10 Lacs	30	7.3%
Educational Qualification	School Level	22	5.3%
	Graduate	127	30.9%
	Post Graduate	135	32.9%
	Professional	87	21.2%
	Others	39	9.5%

Occupation	Student	22	5.3%
	Service	187	45.6%
	Business	145	35.3%
	Other	56	13.6%
Gender	Male	263	52%
	Female	147	48%

Source : Primary data collected for the study

Among 410 respondents, there were 263 (52 %) were male respondents and 147 (48%) were females. Most of the respondents were young as 191 respondents were found to be in the age group of 18-30, 111 respondents were in age group of 31-50 and 108 in age group of above 50. There were respondents in each age range, which reduced the bias of the study findings. As far as education is concerned, 127 respondents were graduates. Most of the respondents were single, as 291 ticked in the single option representing 70% of total respondents. As far as time spent for internet is concerned maximum respondents 40% (165/410) spent more than 2 hours for internet access whereas only 32 % respondents spent less then1 hour for internet access.

Reliability Coefficient

This research used the most popular test of inter-item consistency reliability that is the Cronbach's coefficient alpha (Cronbach, 1951; Nunnally, 1979; Sekaran, 2000). This is a test of the consistency of respondents' answers to all the items in a measure. According to Sekaran (2000), reliabilities less than 0.6 are considered to be poor, those in the 0.7 range, acceptable, and those over 0.8 good. The closer the reliability coefficient gets to 1.0, the better. In this study the alpha value was 0.662 which is acceptable.

Correlation coefficients

Correlations of all variables with each other were examined using Pearson Correlations coefficients. Correlations among different items were quiet satisfactory and were significant at the 0.01 level and 0.05 level for 2-tailed test.

Exploratory Factor Analysis

Exploratory factor analysis was conducted using SPSS 17.0 software for 23 items of the scale using Principal Component Analysis Method. Varimax Rotation method was considered with Kaiser Normalization. The KMO value of .71 ensured sampling adequacy and Bartlett's test statistics with significance level of 0.00 indicated appropriateness of conducting factor analysis for the dataset.

IEFA extracted 6 factors with the criteria of eigen value greater than 1, which explained more than 62 % of the total variance. The analysis converged in total 5 iterations. Items with factor loadings <0.5, high cross loadings >0.4. or low communalities were eliminated (Hair et al.,1998).

The results of the factor analysis are shown in the table 2

Table 2 : Factor Analysis

FACTORS	FACTOR LOADING
RISK RELATING TO PRODUCT	
Goods may be damaged in transportation.	.805
The quality of the product purchased may not be good/guaranteed or as ordered.	.780
Expired/second hand/outdated products may be offered.	.779

Expired/second hand/outdated products may be offered.	.779
There is a risk of receiving products late.	.755
The delivered product could be lost.	.730
MONETARY RISK	
Paying online through credit cards is not safe and secure.	.808
The company may charge more than agreed amount of money.	.753
Cash on delivery option is not available.	.725
Using online purchase channel is not cost effective	.725
Online payment system is costly affair.	.687
Traditional stores offer more discount than online sellers.	.356
MISC. RISK FACTORS	
There are chances of being cheated	.842
There is a risk of unauthorized use of personal information.	.839
Home delivery by a stranger may not be safe.	.787
Online shopping is mere wastage of time	.772
RISK RELATING TO RETURN PROCESS	
The product is non returnable, even if I am not fully satisfied.	.880
Even if available, the product return process may not be easy and convenient.	.880
Return process , if available ,is a costly affair	.853
SOCIAL RISK	
There is loss of social interaction in online shopping	.802
Shopping enjoyment with friends is lost in online shopping.	.784
INFORMATION RISK	
The online information about products and vendor is not satisfactory	.824
Fake information may also be given by online sellers\.	.686

Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. A rotation converged in nine iterations. Rotated factor loadings, with values <0.5 suppressed are displayed. Source : Primary data collected for the study

As exhibited in Table above, Factor 1 loaded on 5 variables.

As seen from the table, all these 5 variables relates to various types of threats/risks associated with goods and services to be bought online. In the light of key attributes associated with these variables, this factor can be labeled as **Risk Relating to Product**. Consumers in Indore perceive risk in terms of damage of goods in transportation, receiving of expired/second hand products, delay in delivery of ordered

goods, goods being different from what was ordered, and loss of ordered goods in delivery process. This factor explained 14.1% of the total variation in the factor analysis. It has appeared as the most dominant factor of online shopping of respondent consumers in Indore city.

Second factor, which loaded upon next five variables, can be labeled as **Monetary Risks** as the variables are associated with the monetary aspect associated with online buying. It includes variables such as use of credit card not being safe and secure, exorbitant/hidden charges by sellers, lack of cash on delivery option, etc. This factor explained 12.8 % of variance in the factor analysis.

The third factor exhibits high loading for four variables, which are related to different aspects of risk associated with online shopping. So, these variables can be clubbed as **Misc. risks** associated with online buying. Consumers perceive risk in terms of unauthorized use of personal information, chances of being cheated, online shopping being mere wastage of time and home delivery by a stranger not being safe and secure.

The fourth factor exhibits high loading for three variables

pertaining to risk related with return option of products, so these can be considered as **Risks relating to return process**. The consumers perceive that either a return process may not be available, or being available, it may be costly and inconvenient.

Factor 5 loaded on two variables which measure the risk related with social loss during online shopping. Consumers are afraid of loss of social interaction and loss of shopping enjoyments with friends. Therefore this factor can be named as **Social Risk**.

Factor 6 loaded on last two variables which are associated with that respondents perceived risk regarding fake and unsatisfactory information in course of online shopping, so it was termed as **Information Risk**.

T test

One sample T test was conducted to know the significance of these factors and results are shown in the table 3. And it is evident that p value (0.000) is less than significance level of 0.005 for all the factors. So it is concluded that all the factors significantly affect consumer's perceived risk towards online shopping at 95% confidence level.

Table 3 : One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
factor1	64.003	409	.000	11.02927	10.6905	11.3680
factor2	114.617	409	.000	18.63902	18.3194	18.9587
factor3	109.018	409	.000	16.70488	16.4037	17.0061
factor4	122.690	409	.000	12.07317	11.8797	12.2666
factor5	119.716	409	.000	8.13902	8.0054	8.2727
factor6	82.029	409	.000	7.79268	7.6059	7.9794

Source : Primary data collected for the study

Discussions and Implications

There are abundant researches on the perceived risk and online shopping behavior. But very little research has emerged on the dimensions of perceived risk in online buying, specifically in relation to Indore city. Therefore, an attempt has been made to explore the important dimensions of perceived risk in online buying process.

Studies in the past have identified various dimensions of perceived risk and their significant impact on online shopping. Results of present study reveal that six dimensions of consumer perceived risk having significant impact on online shopping in Indore. There is a dominance of risk related to product where consumer afraid of receiving

product late, have doubts towards quality of goods delivered, product damage in transportation and expired/secondhand product being supplied. Previous research also indicated that consumers perceive risk in terms doubts in quality of product delivered (Lee and Turban 2001). Consumer concern about delivery of products is also a major component of perceived risk.(Vijyasarthi and Jones,2000; Jarvenpaa and Todd, 1997; Zhang, et al.,2012). When the consumers perceive potential problems in delivery such as goods lost, damaged or delivered to a wrong place, they would put off the purchasing online.(Zhang, et al.,2012).Therefore, e-tailors can offer various promotional schemes like “seven days unconditional return”, guarantee a refund, payment after delivery option and use of

intermediaries such as banks, credit card companies etc.

Monetary risk, related with money aspect was also found to be a determinant factor in Internet shopping overall. (Samadi and Nejadi 2009) Thus the greatest barrier to Internet shopping appears to be the perceived risk that the consumer will lose their money. A large number of studies shows that consumers are quite apprehensive about communicating credit card information over Internet. (Fram and Grady, 1997 and Bhatnagar, et al., 2000).

Besides this, consumers are also concerned about unauthorized use of personal information, which deters Internet users to purchase online frequently. (Cunningham et al., 2005, Liberman and Stashevsky, 2002; Park and Kim, 2003; Miyazaki and Fernandez, 2001; Suresh and Shashikala, 2011). Lessig (1999) also mentioned that as the number of consumers' purchases through Internet increases, electronic vendors can increasingly obtain online buyers' private information such as demographic profiles or consumer shopping behavior, which can be passed on to third parties. The perceived lack of security on public networks is definitely a stumbling block (Balfour et al., 1998). Personal information such as credit card numbers transmitted to vendors from consumers can be coded and decoded using encryption algorithms. Additionally, many consumers desire to retain some level of privacy or anonymity. A Web server, however, can track the identity of the user's computer through "cookies", a text file placed on a user's hard drive. Most online customers are concerned about Web sites that do not provide clear and prominent statements about privacy and security matters. (Yang Z. et al., 2004). Therefore e- marketers should be concerned for customer transaction activities and personal information. Some respondents in the present survey provided useful suggestions. For instance, online companies can furnish visible evidence of services independent security certification. They should provide for documentation or passwords sent to prospective clients at the start of the services. Lack of trust and privacy concerns prevent a lot of consumers from making online purchases. It is the need of the hour for e-tailors to adopt security measures and inculcate a sense of trust among online shoppers that data provided during online transactions will not be misused (Prasad and Aryasri, 2009).

Another factor contributing to perceived risk is risk relating to return process in online buying. Customers are concerned about the returning process of goods in online buying. In our society people always keep option of returning goods to the vendors in case of any type of dissatisfaction in terms of quality, shape, size etc. Even traditional stores also provide the returning option to the customers. Thus online retailers should clearly mention the returning process in their websites and convince customers about compensations if

the product is defective. Money back guarantee, warranty and customer support may be useful. In fact warranties make a positive difference for online retailers with strong reputations with respect to perceived risk (Lwin and Williams, 2006). Other risk relievers like 'complaint opportunities' may also help consumers to reduce their uncertainty when considering an online buying. (Hansen, T., 2006). Other service features such as free return shipping, alerting customers of their order status through email and recommending other products that they may genuinely be interested in (cross-selling and up-selling) are the means to customers' delight and loyalty (Prasad and Aryasri, 2009). Indore is tier two city, and consumers are more concerned about returning process as this factor plays significance role in online buying. This finding for Indore city may be different from metro cities as work culture is different in metro cities. Due to busy lifestyle, consumers of metro cities might not be concerned about returning process whereas in Indore it has been emerged as important factor. Therefore, e-tailors should focus on returning process and design special marketing strategies for two tier cities.

Limitations and Scope for Future Research

Although the objectives of the study were fully met, a few limitations have been identified in the course of this study. First, the present study focused on online consumers of Indore. This could limit the generalization of findings and references to the entire online consumers. This creates an ideal opportunity to consider more diverse demographic groups of buyers. Secondly limited variables were used in this study. The earlier researchers have considered a large number of other variables relating to various other dimensions, viz. Social Risk, Health Risk, After Sales Risk, etc., of perceived risk in online buying. Researchers can use different variables such as website design and characteristics, reliability, use of third party services to provide more and security in online transactions etc to explore various factors of perceived risk towards online shopping, though sample size is acceptable, it can be increased by the future researchers. Further, this research has considered only one dimension affecting online buying behavior and the researchers of tomorrow may consider additional dimensions affecting online buying by individuals. Lastly, this work has not considered the impact of perceived risk on purchase intention/online buying decision (which is the vary basic objective of measuring perceived risk) of individuals, which may be taken as a technical limitation of this study. Future researchers shall consider this aspect in course of their researches.

Conclusion

Online buying is a recent phenomenon in the business arena. With the development of Internet technology, business processes and procedures, including selling, have been

directed to explore a whole world of business opportunities aiming at redefining business success. Internet has created a significant impact on the psychology and attitude of buyers all across the globe. It has provided new opportunities to consumers to purchase goods and services virtually anytime, anywhere. With a tremendous increase in number of internet user in India and worldwide, there is ample potential for marketers to offer their products and services through this virtual channel. But there exist a large number of factors, which may affect the decision of buyers to go online. Perceived risk is assumed to be one of the important among these factors.

This research work was undertaken with the basic objective of exploring the important dimensions of perceived risk in relation to online buying by consumers in Indore. For the purpose of this work, 410 individual respondents from Indore city were considered and primary data was drawn using five point likert type scale. Indore was considered as the focal point for this study as it is a city witnessing the extremes of a nearly metro, a sub-urb and even a rural demography. Exploratory factor analysis was conducted, which generated six dimensions.. The results of the analysis revealed that “Risk Relating to Product”, “Monetary Risk”, “Misc. Risk”, Social Risk, “Risk Relating to Return Process” and “Information Risk” are the important dimensions of perceived risk in online buying of consumers in Indore. The findings of the study would be a help to e-marketers of today and tomorrow in overcoming this barrier of online shopping market form mediocre towns and cities through framing of suitable plans and policies, which will help the consumers of tomorrow to overcome their perceived risk, thereby ensuring online selling a successful endeavor.

References

- Adapa, S. (2008). Adoption of internet shopping: cultural considerations in India and Australia. *Journal of Internet Banking and Commerce*, 13(2), 1-17.
- Azadavar, R., Shahbazi, D. and Teimouri, M.E. (2011). The role of security as a customer perception on customers' online purchasing behavior. *International Conference on Software and Computer Applications IPCSIT*, 9,174-181.
- Akaah, I.P. and Korgaonkar, P.K. (1988) 'A conjoint investigation of the relative importance of risk relievers in direct marketing', *Journal of Advertising Research*, 3 August/ September: 38-44.
- Balfour, A., Farquhar, B. and Langmann, G. (1998).The consumer needs in global electronic commerce. *Electronic Markets*, 8 (2), 9-12.
- Bauer R A. (1960). Consumer Behavior as Risk Taking. In D.F. Cox (ed.), *Risk Taking and Information Handling in Consumer Behavior*[M]. Cambridge: Harvard University Press., 389-398
- Bhatnagar, A., Misra, S. & Rao, H. R. (2000). On risk, convenience, and internet shopping behavior. *Communications of the ACM*, 43(11), 98-105.
- Borchers, A. Trust in Internet shopping: A test of a measurement instrument, *Proceedings of the 7th Americas Conference on Information Systems*, 2001, pp. 799-803
- Cases, A.S. (2002). Perceived risk and risk-reduction strategies in internet shopping. *International Review of Retail, Distribution and Consumer Research*, 12(4), 375-94.
- Cox, D.F. & Rich, S.U. (1964). Perceived risk and consumer decision making-the case of telephone shopping. *Journal of Market Research*, 1 (4), 32-39.
- Cronbach, L.J.(1951). Coefficient Alpha and the Internal Structure of Tests, *Psychometrika*, 16(3), 297-334.
- Cunningham, L. F., Gerlach, J. H., Harper, M. D.& Young, C. E.(2005). Perceived risk and the consumer buying process: internet airline reservations, *International Journal of Service Industry Management*, 16(4), 357-372.
- Delafrooz, N., Paim, L., H., J.,& Khatibi, A.(2011). A research modeling to understand online shopping intention. *Australian Journal of Basic and Applied Sciences*, 5(5),70-77.
- Doolin , B., Dillon, S., Thompson , F. & Corner , J. L. (2005) Perceived risk, the internet shopping experience and online purchasing behavior: a Newzealand perspective. *Journal of Global Information Management*, 13(2), 66-88.
- Eastlick, M.A., & Feinberg, R.A. (1999). Shopping Motives for Mail Catalog Shopping. *Journal of Business Research*, 45(3), 281-290.
- Furnell, S.M.& Karweni, T. (1999). Security implications of electronic commerce: a survey of consumers andbusiness. *Internet Research*, 9(5), 372-382.
- Fram, E.H. and Grady, D.B. (1995). Internet buyers: Will the surfers become buyers? *Direct Marketing*, 59 (1), 46-50.
- George, J.F. (2002). Influences on the intent to make Internet purchases. *Internet Research*, 12(2), 165-180.
- Garbarino, E. and 1 Strahilevitz, M. (2004). Gender

- differences in the perceived risk of buying online and the effects of receiving a site recommendation. *Journal of Business Research*, 57(7), 768-775.
- Hair, J. O.F, Anderson, R.E. & Tathan, R.L. (1998). *Multivariate Data Analysis[M]*. Engle Wood Cliffs, NJ: Prentice Hall.
- Hansen,T. (2006). Determinants of consumers' repeat online buying of groceries. *International . Rev. of Retail, Distribution and Consumer Research..* 16(1),93–114.
- Hirst, A. & Omar, O.(2006). Assessing women's apparel shopping behavior on the internet. *Journal of Retail Marketing Management Research*,1 (1), 32-40.
- Hoffman, D.L., Novak, T.P., and Peralta M. (1999). Building consumer trust online. *Communications of the ACM*, 42 (4) 80-85.
- Jarvenpaa, S.L. & Todd, P.A.(1997). Consumer reactions to electronic shopping on the World Wide Web. *International Journal of Electronic Commerce*, 1(2), 59-88.
- Kaplan, L.B., Jacoby, J. & Szybillo, G. (1974). Components of perceived risk in product purchase: a cross-validation. *Journal of Applied Psychology*, 59(3), 287-291.
- Lessig, L. (1999). *Code and other laws of cyberspace*. New York, Basic Books.
- Lee, K. S., & Tan, S. J. (2003). E-retailing versus physical retailing: a theoretical model and empirical test of consumer choice. *Journal of Business Research*, 56(11), 877-885.
- Lee, M. K. O., and Turban, E. (2001). A trust model for consumer internet shopping, *International Journal of Electronic Commerce*, 6(1), 75-91
- Liebermann, Y.& Stashevsky, S.(2002). Perceived risk as barriers to internet and e-commerce usage. *Qualitative Market Research*, 5, (4), 291-300.
- Lwin M. O. & Williams J. D. (2006). Promises, Promises: how consumers respond to warranties in internet retailing. *The Journal of Consumer Affairs*, 40(2), 236-260.
- Miyazaki, A.D. and Fernandez A.(2001). Consumer perceptions of privacy and security risks for online shopping. *Journal of Consumer Affairs*, 35(1), 27–44.
- Molina-Castillo and Lopez-Nicolas. (2007). Innovative products on the Internet: The role of trust and perceived risk. *International Journal of Internet Marketing and Advertising* 4(1), 53-71.
- Naiyi, Y.E.(2004).Dimensions of consumer perceived risk in online shopping. *Journal of Electronic Science and Technology of China*.2(3),177-182.
- Novak, T. P., Hoffman, D. L., and Yung, Y. F. (2000). Measuring the customer experience in online environments: A structural modeling approach. *Marketing Science*, 19 (1), 22.
- Nunnally, J.C., & Bernstein, I.H. (1994).*Psychometric Theory*. New York: McGraw-Hill.
- Park, C. and Kim, Y. (2003). Identifying key factors affecting consumer purchase behaviour in an online shopping context. *International Journal of Retail and Distribution Management*, 31(1), 16-29.
- Prasad, J.S.& Aryasri, A. R. (2009). Determinants of shopper behavior in e tailing: an empirical analysis, *Paradigm*, XIII(1), 73-83.
- Peterson, R.A., Balasubramanian, S. & Bronnenberg, B.J. (1997). Exploring the implications of the internet for consumer marketing. *Journal of the Academy of Marketing Science*, 25 (4), 329-346.
- Peterson, R.A., Albaum, G., & Ridgway, N.M. (1989). Consumers Who Buy from Direct Sales Companies. *Journal of Retailing*, 65(2), 273–288.
- Petronas, U.T. & B. Seri., (2001). Malaysian internet user's motivation and concerns for shopping online. *Malaysian Journal of Library & Information Science*, 6(2), 21-33.
- Roselius, T. (1971) 'Consumer rankings of risk-reduction methods', *Journal of Marketing*, 35(1): 56–61.
- Samadi, M.& Nejadi, A. Y.(2009). A survey of the effect of consumers' perceived risk on purchase intention in e-shopping. *Business Intelligence Journal*,. 2 (2),261-275.
- Sekaran, U. (2000). *Research Methods for Business: A Skill-Building Approach*, 3rd edn., Wiley, New York, USA
- Senecal, S. (2000). Stopping variables in online buying processes: An innovation diffusion approach, *Proceedings of the 6th Americas Conference on Information Systems*, 1380-1385
- Shergill, S.G., and Chen Z. (2005). Web- Based Shopping: Consumers Attitudes towards Online Shopping in New Zealand. *Journal of Electronic Commerce Research*, 6(2), 79-94.
- Schiffman, L. & Kanuk, L. L.(2007). *Consumer Behavior*, Eighth Edition. Pearson Education.

- Suresh, A.M. & Shashikala, R. (2011). Identifying factors of consumer perceived risk towards online shopping in India. *International Proceedings of Economics Development & Research*, 12, 336-341.
- Tan, S. J. (1999). Strategies for reducing consumers' risk aversion in internet shopping. *Journal of Consumer Marketing*, 16(2), 163-180.
- Vellido, A., Lisboa, P. J. G., and Meehan K. (2000). Quantitative characterization and prediction of online purchasing behavior: a latent variable approach", *International Journal of Electronic Commerce*, 4(4), 83-104
- Vijayarathy, L. & Jones, J.M. (2000). Print and internet catalog shopping: assessing attitudes and intentions. *Internet Research: Electronic Networking Applications and Policy*, 10(3), 191-202.
- Van den Poel, D. and Leunis, J. (1999) 'Consumer acceptance of the Internet as a channel of distribution', *Journal of Business Research*, 45(3): 249-56.
- Waldo, B.H. (2000). Redefining the health care landscape with the internet. *Nursing Economics*, 18 (2), 99-100.
- Wang, H., Lee, M.K.O. & Wang, C. (1998). Consumer privacy concerns about Internet marketing. *Communications of the ACM*, 41(3), 63-70.
- Yang, Z., Jun, M. & Peterson, R.T. (2004). Measuring customer perceived online service quality :Scale development and managerial implications. *International Journal of Operations & Production Management*. . 24(11), 1149-1174.
- Zhang, L., Tan, W., Xu, Y. & Tan, G. (2012). Dimensions of consumers' perceived risk and their influences on online consumers' purchasing behavior. *Communications in Information Science and Management Engineering*, 2(7), 8-14.

Webliography

Evolution of e-commerce in India Creating the bricks behind the clicks; ASSOCHAM, 2014, accessed on December 15, 2014, www.pwc.in/assets/pdfs/.../2014/evolution-of-e-commerce-in-india.pdf.

Notes on the e-commerce market in India, Anirudh Chari **May 07, 2012, accessed on May 30, 2012,** (www.slideshare.net/anirudhchari/note-on-the-e-commerce-market-in-india www.slideshare.net/anirudhchari/note-on-the-e-commerce-market-in-india)

CRISIL Opinion, accessed on December 10, 2014 (www.crisil.com/.../research/CRISIL-Research-Article-Online-Retail-Feb1.

Indian online retail market-Trends and opportunities, accessed on December 12, 2014. http://www.slideshare.net/daedal/indian-online-retail-etaling-market-trends-opportunities-20142019-new-report-by-daedal-research

Online retail industry to reach Rs.7000 crore mark by 2015; ASSOCHAM, July 3, 2011, accessed on March 15, 2014, www.assocam.org/prels/shownews.php?id=2965