

Identifying Factors of Consumer Perceived Risk towards Online Shopping in India

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Abstract. Online Shopping in India is in its nascent stages and is expected to rise above \$700 million by the end of March 2010, promising a bright future. However, many people still locate information on the internet and purchase products offline at traditional stores, conversion rate being very low. This paper attempts to investigate the factors influencing customer perceived risk of online shopping in Indian context. Reliability coefficient for the scale was satisfactory and factor analysis generated 6 major factors: Monetary, Performance, Time, Source, Social, and Psychological. Monetary and performance risks have highest mean scores and social and psychological risks being the lowest. Further T test confirmed that all of these factors had significant impact. Managerial implications and measures for improvement are discussed.

Keywords: online shopping, e-tailing, perceived risk, internet

1. Introduction

Internet is changing the way consumers shop for goods and services, and has rapidly evolved into a global phenomenon. Online shopping is the process where consumers go through to purchase products or services over the Internet. There are 38.5 million Indians online as per the latest forecast from Internet and Mobile Association in India. The current growth rate is 54% and it is expected to accelerate further. Driven by the need to save time by urban India and ever increasing population with internet access, E-Commerce Industry in India was worth Rs. 7080 crores at the end of 2006-07. E-tailing is the biggest part of electronic commerce and was worth of Rs. 850 crores in the year 2006-07 and contributed around 12% to the total E-Commerce. This segment was expected to rise by 30% to Rs. 1105 crores at the end of 2007-08. Online shopping is truly catching on in India. Every day air and railway tickets worth INR 300 million are sold online. A jewellery piece sells every five minutes, a mobile handset every eight minutes, and a car every nine hours says a popular commodity site eBay.com. Many Indians purchase goods like books, electronic gadgets, air and rail tickets, apparel, gifts, mobiles, computer peripherals, audio cassettes and CDs, though ASSOCHAM says that books are the hottest selling item on internet in line with previous research (Doolin et al., 2005).

The first benefit that a customer derives from e-retailing is convenience as it saves time and efforts for today's time starved customer at the same time providing a plethora of choices for wide category of items and also the luxury of comparing the offerings from different vendors – all at the click of his mouse. Another most obvious benefit of online shopping is the significant discounts that most of these e-retailers provide to attract the customers. Also online stores are usually available 24 hours a day and not limited by global time differences. Searching or browsing an online catalog can be faster than browsing the aisles of a physical store. Along with information about a company and its products, buyers can also have better access to product review and rating systems. However, many people still locate information on the internet and

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purchase products offline at traditional stores, conversion rate being very low. Research shows that between 65% and 75% of consumers that initiate an online transaction fail to complete the transaction. This paper attempts to provide empirical evidence in understanding consumer perceived risk towards online shopping in India.

2. Perceived Risk in Online Shopping

Perceived risk is the uncertainty that consumers face when they cannot foresee the consequences of their purchase decisions (Schiffman et al., 2007). 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, time risk. 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 also said to influence the consumer's likelihood of trying new products or services.

Internet being relatively new channel of purchase, consumers perceives risk and electronic commerce is perceived to be more risky than traditional commerce. In an early attempt to identify the perceived risks of online shopping, Tan (1999) found that perceived risk is higher when purchasing products through Internet than when purchasing by in-store means. Consumers may also select a particular shopping mode - i.e. bricks and mortar versus online outlet - based on their perceptions about whether a product or service is best bought from one or the other. Services are more likely to be associated with the online shopping mode, whereas more tangible products are likely to be associated with bricks and mortar stores (Rajamma, Paswan, and Ganesh, 2007). Vijayarathy & Jones (2000) found that perceived risk influenced both attitudes toward online shopping and intention to shop online in line with other studies. However, perceived risk is said to decrease with internet experience (Miyazaki and Fernandez, 2001). Even Huang, Schrank and Dubinsky (2006) found online shoppers possessed lower perceived risk than non-shoppers.

The major concerns of online shopping are 'security of online payments' and 'privacy of personal information' (Cunningham, et al., 2005; Liberman and Stashevsky, 2002; Park and Kim, 2003; Miyazaki and Fernandez, 2001). Privacy risks have a negative association with online purchasing behavior and deter Internet users from shopping online frequently and from spending significant amounts of money (Doolin et al., 2005). But lower levels of privacy risk not necessarily result in greater attitude toward using internet for shopping (Amoroso and Hunsinger, 2008) It is true that customers miss social interaction and the entire shopping experience (Doolin et al., 2005) and lack of ability to inspect merchandise before purchase; puts them at higher risk of fraud on the part of the merchant than in a physical store. Consumers have even expressed their concerns over delivery and return of products purchased online (Jarvenpaa & Todd, 1997; Vijayarathy & Jones, 2000). Phishing is another danger, where consumers are fooled into thinking they are dealing with a reputable retailer, when they have actually been manipulated into feeding private information to a system operated by a malicious party. Bhatnagar et al. (2000) emphasized two types of risks in online shopping: product risk and financial risk. Product risk is associated with performance or functionality of the product as expected. It is higher for technologically complex products like electronics& hardware, ego-related products like sunglasses and for higher expenditure levels. It is also high for food, as one has to feel and touch it to determine freshness, but is low for apparel and clothing. The financial risk is not particularly on account of the monetary amount involved in the transaction but more because it puts the consumer at risk of losing money via credit card fraud. This would be higher for products like hardware, software, CDs, and books. Other risks associated with electronic shopping being performance, physical, social, and psychological (Jacoby and Kaplan 1972; Peter and Tarpey 1975) in addition to other dimensions such as source credibility and time (Roselius 1971). Chang and Chen (2008), confirms that web site quality also affect consumers' perceived risk and in turn, consumer purchase intention. Above discussion shows that perceived risk in Internet context is multidimensional and empirical research has not been conclusive. So authors decided to check its dimensionality in Indian context by exploring the factors influencing online shopping risk.

3. Methodology

The study was conducted in Bangalore and data was collected through survey method. A 17 items scale was constructed based on previous studies comprising of all major concerns. Study population consisted of individuals who had made at least one online purchase for any product or service recently i.e, within six months period. Perceived risk was measured on 5 point Likert-type scale with '1' indicating 'strongly disagree' and '5' indicating 'strongly agree'. Personal interviews were conducted on a sample of 90 respondents who were chosen on convenience basis.

Demographic profile of respondents shows that sample consisted of 51 male and 39 female respondents. Majority in the age group of less than 30 years (52) and had minimum education of graduation (65). There were 22 respondents in the income group of <15000, 34 in 15000-25000, 28 in 25000-50000 and 6 in >50000 rupees per month. Around 55 respondents had 1-2 years of internet experience and shopped once a month on an average (54).

4. Analysis and Results

Data was analysed using SPSS package (15.0 version).

4.1. Reliability Coefficient

Internal reliability of the scale was assessed using Cronbach's alpha. Results showed that alpha value was 0.732 which is quiet satisfactory.

4.2. 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.

4.3. Factor Analysis

Exploratory factor analysis was conducted for 17 items of the scale using Principal Component Analysis Method. Varimax Rotation method was adopted with Kaiser Normalization. It extracted 6 factors with an eigen value greater than 1 which explained 66.54 % of the total variance. The analysis converged in total 9 iterations. Other rotation methods like Quartimax though used could not improve factor loadings. Items with factor loadings <0.5 were removed. The results of the factor analysis are shown in the table 1.

Table – 1: Factor structure of Perceived Risk

Factors	Factor loading
Factor 1 - Source	
Products are defective and unsafe	.797
Products are lost during shipment	.794
Factor 2 - Psychological	
Loss of time due to slow website, etc	.779
Physical injury while using internet	.510
Psychological discomfort and tension	.718
Online purchase affects my self-image	.568
Factor 3 - Monetary	
Additional hidden costs	.500
Lack of protection for credit card information	.775
Difficulty in getting back money	.723
Chances of losing sensitive and proprietary information	.632
Factor 4 - Performance	
Product would match web image	.720
Performance of the product is as expected	.758
Factor 5 - Social	
Online purchase affects the way others think of me	.576
Factor 6 - Time	
Product is delivered on time	.831

Above table shows that factor 1 is the combination of vendor related items like products delivered may be defective & unsafe and may be lost during shipment. This factor accounted for 14.32% of total variance. Factor 2 is the combination of psychological discomfort and tension, the way online shopping affects self-image. Items related to loss of time and physical injury are also loaded along as these concerns may indirectly cause psychological discomfort. This factor accounted for 12.85% of variance. Self image variable had almost equal loadings for both factor 1 and factor 2, but was considered in latter as it was more suitable. Third factor accounted for 12.45% of variance and was a clear combination of all financial concerns. Factor 4 accounted for 11.20% of variance combining concerns like product purchased would not match web image and its performance may not be as expected. Social and Time factors were loaded with single factors ‘online purchase affects the way others think of me’ and ‘product is delivered on time’ respectively. These two factors explained 7.9% and 7.8% of variance respectively.

Further mean scores of factors showed that **monetary** risk is highest with score of 3.636 showing that consumer perceived risk towards online shopping is influenced mostly by monetary aspects. Next is **performance** risk with 3.4278, showing higher score. Third is **time** risk with mean score of 3.3667 and **source** risk with 3.0944 in fourth position. **Social** and **psychological** risks are relatively lower with 2.9111 and 2.7972 respectively.

4.4. T test

One sample T test was conducted to know the significance of these factors and results are shown in the table 2. And it is evident that p value (0.000) is less than significance level of 0.001 for all the factors. So it is concluded that all the factors significantly affect consumer’s perceived risk towards online shopping at 99.999% confidence level.

Table-2: One-Sample T Test of Factors

Factor					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Source	32.426	89	.000	3.09444	2.9048	3.2841
Psychological	30.418	89	.000	2.79722	2.6145	2.9799
Monetary	47.971	89	.000	3.63611	3.4855	3.7867
Performance	43.264	89	.000	3.42778	3.2704	3.5852
Social	27.887	89	.000	2.91111	2.7037	3.1185
Time	31.957	89	.000	3.36667	3.1573	3.5760

5. Managerial Implications

From a managerial standpoint, identifying consumer risks is important and how to reduce these is of greater importance. Six components of consumer perceived risk were identified having significant impact on online shopping. However there is a dominance of money related risks where lack of protection for credit card information is treated as greater concern. To reduce this risk online vendors have to provide a secure channel for not only monetary transactions but also for other sensitive and proprietary information consumer furnishes at the time of transaction. Even the role of Government is emphasized here as there is a need for more stringent measures. Online vendors need to be more transparent in disclosing the total costs involved. Performance risks can be minimized by designing websites effectively to offer experiential value by reducing impersonal nature of Internet shopping through virtual characters called avatars (Holzwarth, Janiszewski and Neumann, 2006). Time related concerns are reduced by providing logistic solutions to overcome one of the most powerful assets of traditional bricks-and-mortar businesses: the possibility for the customer to walk out with the purchased product in hand. To address source related concerns online retailers have to convince customers that proper compensations are made if the product is defective and lost during shipment. 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). Satisfied customer endorsements were also found to increase consumer's trust about online store. This, in turn, influences positive attitudes toward the store and willingness to buy from the store (Lim, et al., 2006).

6. Pointers of Future Research

Present study was confined to Bangalore city with a small sample size of 90. Factor analysis with such a small sample may have questionable applicability. Therefore generalisability of results is doubtful. Further study included only those consumers who had a past experience of purchasing online and it failed to explore the perceptions of nonusers. As perceptions change over time, longitudinal research may be helpful. Studies with relatively larger sample, derived across India, would be required.

7. Conclusion

E-tailing is a new industry in India. Due to robust growth in broadband internet access to entire population, it may see an explosive growth. Most growth drivers are in India's favor – demographics, economy, changing lifestyle, exposure to new ideas. It is just a question of creating a sustainable eco system for e-tailing, which definitely drives the growth of e-commerce in the country. The ability to measure and reduce perceived risk would take Indian online vendors to a great height in maximizing both customer satisfaction and profits. Also as perceived risk tends to decrease with internet experience, it is a matter of time that e-tailing would be a booming industry in India.

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9. References

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