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Analyzing Perceived Risks and Website attributes in E-Retailing: a Study from India

SITA MISHRA, PhD

Associate Prof. (Marketing), Institute of Management Technology, Rajnagar, Hapur Road, Ghaziabad (U.P.), India

Author's Personal/Organizational Website: www.imt.edu

Email: smishra@imt.edu

Sita Mishra has more than 19 years of experience in industry as well as academics. In her previous stint, she also worked on TQM and ISO 9002 in Marketing Division of Steel Company. She has published more than 40 research papers in international/national journals/book chapters and presented papers in international/national conferences, besides being on the reviewing board of a few.

PRIYA MARY MATHEW

Associate Professor, Business and Technology Department, Pearl Academy, Phase II, CH Girdhari Lal Marg, Naraina Industrial Area, Naraina, New Delhi, India

Author's Personal/Organizational Website: www.pearlacademy.com

Email: priya.711@gmail.com

Ms. Priya Mary Mathew is a Management Graduate and currently associated with Pearl Academy of Fashion, Delhi. She teaches subjects like Marketing, Research, Consumer Behavior etc. She has over 8 Years of experience in teaching and training. She has worked with renowned organizations as Bridal Asia, IILM, J&J Buying Services etc.

Abstract

With the Internet users crossing the figure of 150 million in 2012, India is witnessing a more mature growth among the users. The large internet user market despite a low penetration level also suggests that the online market of India has huge business potential. This research study examines the behaviour of online consumer in India in

terms of internet usage, perceived risks, and website attributes influencing online users. Further, we studied influence of perceived risks on intent to do online purchase in future. A structured questionnaire was administered to 600 online consumers using field and online survey mediums. Results show that Indian online users had high level of perceived risks, highest fear being related to the delivery of products purchased online. Information quality, product range and after online sales service are most preferred website attributes which influence Indian online users.

Keywords: Online shopping, website attributes, perceived risks, internet usage, e-retailing, India

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INTRODUCTION

Worldwide e-commerce has been on the rise, according to Interactive Media in Retail Group (IMRG report 2012) business-to-consumer e-commerce sales will pass the 1 trillion euro (\$1.25 trillion) mark by 2013, and the total number of Internet users will increase to approximately 3.5 billion from around 2.2 billion at the end of 2011. Internet usage globally has been on the rise with most of the growth has come from markets in Asia Pacific and Latin America. Asia Pacific has added over 43 million users and is growing in line with the 7% growing worldwide growth rate (Comscore ASSOCHAM report, 2012). The online user growth worldwide has largely been accelerated with improved network infrastructure and growing need of online content consumption.

Over the last few years, India has experienced a surge in technology advancement with the advent of broadband and 3G penetration as well as smart devices. Among the BRIC Nations, India has been the fastest growing market adding over 18 million internet users and growing at an annual rate of 41%. According to Forrester report (2012), the e-commerce market in India is set to grow the fastest within the Asia-Pacific Region at a CAGR of over 57% between 2012-16. B2C e-commerce grew over 300% in the five countries (BRIC and South Africa) since 2008 and from 2011 onward, internet usage and B2C e-commerce is set to grow significantly (IMRG report, 2012). India's e-commerce market was worth about \$2.5 billion in 2009, it went up to \$6.3 billion in 2011 and to \$14 billion in 2012 (Hindustan Times report, 2012). Fig 1 depicts Indian Retail market forecast by different reports. E-commerce broadly encompasses of travel retailing followed by e-retailing. Travel e-commerce has been above global averages and continues to soar in terms of visitation and transactions. Several players getting funded, aggressive marketing and the consumer need and convenience to buy these products online have fueled retail growth.

India is also among the top 3 fastest growing markets worldwide in the last 12 months (Comscore ASSOCHAM report, 2012). India's e-tailing market in 2011 was about \$600 Mn and expected to touch \$9 Bn by 2016 and \$70 Bn by 2020 (Hindustan Times report, 2012). The internet has reached small metros and towns of India. Youth of India continues to form the major segment of the total online users (Internet and Mobile

Association of India Report, IMAI 2011 report). With the population of India crossing 1.2 Billion, the number of computer literates in India has increased to around 224 Million and the number of internet users has increased to 150 Million as of December 2012. This takes the penetration of Internet in India to about 12%. (Vernacular Report, IMAI, 2012). While the point of access in predominantly cyber café in India, the emergence of smart phones and 3G has resulted in use of mobile phones, I-pads and kiosks as emerging points of internet access.

E-retail category penetration has increased to 60% reach and has grown to 37.5 million unique visitors a month, an overall growth of 43% annually (IAMA report, 2012). The growth has come across all retail categories and most of them show promising transactions and conversion rates along with growth in visitors. E-retail category has seen peculiar growth with a lot of retailers pushing for trials among consumers through discounts and freebies. This is a changing trend as consumers are tried now ready to try online shopping, the credibility of these sites will further bolster the transaction volume on retail sites. Report by comScore Inc (2012) divulges that online shopping in India has touched a growth rate of 18 per cent and is only likely to grow further. The report found that nearly 60 per cent of netizens in India visited a retail site in November 2011. Last year, consolidation and increase in e-Commerce, was observed due to tremendous and steady growth in retailing of fashion accessories, branded apparel and footwear segment, a category dominated by women heavily. As per the latest data, the branded apparel and footwear segment has seen a y-o-y growth of 56% and 71% respectively (IAMA, 2013). This sets for exponential growth in year 2013.

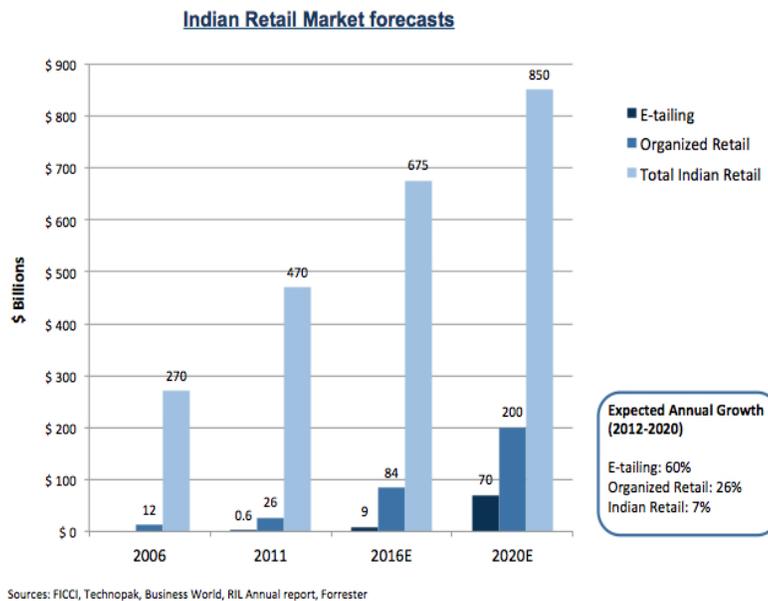


Fig 1: Indian Retail market forecast by different reports

Despite high awareness of internet and high e-usage in India, the translation of e-users to into e-customers is low because of high perceived risks. To understand this, the study attempted to investigate the online consumer behavior of active Indian online users in terms of daily internet usage in hours, perceived risks of respondents, preferred website attributes that could influence e-users to become e-buyers.

LITERATURE REVIEW

Although business-to-consumer electronic commerce has experienced fiery growth worldwide, it is interesting to note that it still only accounts for a very small portion of overall consumer spending in India. This section reviews the available literature in three theme-wise sections vis-à-vis consumer behaviour: Internet usage, perceived risk, website attributes and influence of perceived risks on intent to do online purchase in future.

Internet usage

Internet usage is defined as the approximate time, in hours, that an online user spends on a daily basis using the internet. Korgaonkar and Wolin (2002), classified consumers as heavy, medium, and light users of the Internet, based on number of hours spent per day on internet. The studies on the influencers of internet usage have shown that perceived usefulness and ease of use encourages online users to use internet for longer duration (Davis, 1989). Loshe et al. (2000) showed that the longer the internet usage, the greater is the intent to do online purchase in future and the greater the chance of making a purchase online. Role of Internet usage in the acceptance of Internet shopping is studied by many researchers (Bellman et al., 1999; Citrin et al., 2000).

Online spending increases with time online, and appears to compete with other forms of online entertainment and social networking (Hannah and Lybecker, 2010). Park and Jun (2003) examined differences in Internet usage, Internet innovativeness, perceived risks of Internet buying, and Internet buying behaviors between Korea and America. Results showed that there were significant differences in Internet usage and the perceived risks of Internet shopping, but no significant differences in Internet buying intentions or online buying experience between Korean and American consumers. Plessis et al. (2004) found that the period of Internet usage significantly influenced the decision to purchase via the Internet.

Another finding was that the period of Internet usage significantly influenced whether those shopping on the Internet searched for, or considered searching for, product and service information online prior to purchasing from non-Internet-based sellers. Cheng et al. (2009) studied the intention to use the internet as a retailing platform depends on the perception of value (functional, social, emotional and epistemic dimensions of value) associated with the use of the medium. The Internet has played a larger role in consumer buying decision especially when purchase decisions become more routine and there is a lesser need for personal assistance (Ratchford, Talukdar and Lee, 2001).

In this research, we have studied the daily internet usage in hours to understand its influence on perceived risks of online users and preferred website attributes.

Perceived Risks

Perceived risk has been defined as feelings of uncertainty and possible adverse consequences about some future event (Cox and Rich, 1964; Cunningham, 1967). Various types of risk identified were relative to physical, time, safety, financial, and performance dimensions (Cunningham, 1967; Dowling, 1986; Lim, 2003; Forsythe and Shi, 2003). Bhatnagar et al. (200) have mentioned three major types of risk on web business viz. financial risk, product risk, and information risk (security and privacy).

It was in 1999 that Mitchell (1999) suggested that perceived risk was powerful at explaining consumers' behaviour because consumers were more often motivated to avoid mistakes than to maximize utility in purchasing. Grazioli and Jarvenpaa (2000) expressed perceived web risk as extent to which a user believes it is unsafe to use the web or that negative consequences are possible. High perceptions of web risk for internet business can adversely affect consumer willingness to share personal information, pursue vendor advice, and, finally, purchase. Many researchers have studied the effects of perceived web risk on e-business (Hoffman et al., 1999; Grazioli and Jarvenpaa 2000, Antony et al., 2006).

Website Attributes

Online marketers and retailers should identify elements enhancing trust among potential customers. For entrepreneurs that depend totally on pure website-based businesses, designing their website is a central issue. Some of the elements identified as website attributes are: third-party approvals and endorsements; the site's usability and inter activity; the credibility of the online vendor; and the content elements including the aesthetic aspects of the online presentation and the marketing mix (Loebbecke, 2003; Chen and Chang, 2003; Demangeot and Broderick, 2007).

Previous studies have indicated that design decisions made by the retailer influence consumer perceptions of the retailer and their intentions to shop at those internet sites (Jarvenpaa and Tractinsky 1999; Zhang and von Dran 2000). Zhang et al. (2001) have found that consumers also evaluate design attributes of web-stores differently, depending on the type of product or service offered by those sites. McKnight et al. (2002) found that perceptions of the site design and quality were strong predictors of trusting beliefs in the retailer and in consumer intentions to buy from the site. Fogg et al. (2002) found that users used the design appeal of a site as the most prominent cue in evaluating its credibility. Kotha, et al. (2004) argued that the greater the on-site resources of an e-tailer, the greater the ability to attract and retain customers. They emphasized that product selection as a tangible and directly measurable on-site resource. Service is another attribute recognized by electronic customers that helps in establishing trust, similar to physical store customers. Online marketers may express their commitment to incessant service with the insertion of customer service links, interactive email, and a help button on their Web site (Lohse and Spiller, 1998).

Belanger et al. (2002) investigated the relative importance of three types of Web attributes: security, privacy and pleasure features (convenience, ease of use, cosmetics), they found privacy and security features were of lesser importance than pleasure features when considering consumers' intention to purchase. Ranganathan and Ganapathy (2002) took the consumers' perspective and offered guidelines for online merchants to have an effective site based on four dimensions: information content, design, security, and privacy. Wolfenbarger & Gilly (2001) emphasized that consumers make inferences about the attractiveness of a product based on information provided by retailers, and design elements of the Website such as ease and fun of navigation. Superior product assortment results in positive perceptions of customer satisfaction (Szymanski & Hise ,2000).

Influence of perceived risks on intent to do online purchase in future

Even after two decades of studies, the common problem in many online businesses remains that of encouraging online browsers to become online buyers (Hahn and Kim 2009). The willingness to buy online can increase only with decrease in level of perceived risk and increase in perceived trust. Literature review indicated that perceived risk was clearly linked to customers' satisfaction levels and repeat purchase intentions. Choi and Lee (2003) had measured impact of perceived risks on online purchase intent regarding apparel shopping. The eight specific perceived risks studied were: credit card information used for online purchases must be secure, personal information provided for online purchases must be confidential, online retailers must be trustworthy, online purchases must be delivered in a timely manner, delivered products must match those described on the Website, products purchased online must be delivered undamaged, product returns must be easy for online purchases, and contacting customer service must be easy for online purchases. The study showed that the online purchase intent is influenced by all factors of perceived risks.

Research Gap

Unlike offline retail stores, the inability to interact with a salesperson and the merchandise, and the reliance on electronic payment methods increase perceived risks with regard to online shopping (Shim et al, 2001). Consumers look for cues from the online environment to make sure that they will not experience a loss when making a purchase online (Chang and Chen, 2008). This present study tried to understand which website attributes help in reducing online shopping uncertainty.

RESEARCH METHODOLOGY**Objectives of the study**

The purpose of the study was to examine the online consumer behaviour of active Indian online users in terms of a) internet usage; b) perceived risks; c) website attributes; d) relationship between website attributes and internet usage; e) influence of perceived risks on intent to do online purchase in future.

Instrument

Based on extensive literature review, perceived risks of online consumers in this study was investigated based on following factors : Credit card information (Pennanen, K. et al, 2007); Privacy of Personal Information (Gefen, 2000); Trustworthiness of online retailer (Chaudhuri and Holbrook, 2001, Ruyter et al. 2001); Timely delivery of online purchases (Li and Zhang 2002); Delivered products must match those described on the website (Chang and Chen 2008); Products purchased online must be delivered undamaged (Li and Zhang 2002); Product returns must be easy for online purchases (Hahn and Kim 2009) and Contacting customer service must be easy for online purchases (Chang and Chen 2008). Eight website attributes, which are relevant to online retailers to entice online users, were included and the respondents were asked to rank each attribute (1 being the highest rank and 8 being the lowest). A structured questionnaire was used for the survey which had Cronbach's Alpha, $\alpha > 0.75$.

Procedure

The respondents were selected using quota-sampling technique. Based on IAMA report

(2010) first level of categorisation was based on Indian states that showed considerable penetration of Internet (Delhi, Mumbai, Chennai, Kolkatta, Gurgaon, Faridabad, Jaipur, Chandigarh, Hyderabad and Cochin). The second level of stratification was based on age groups. The quota decided was that one third of sample will be selected from each of these age groups :18 to 21 ; 21 to 30 and 31 above. Out of 600 filled questionnaires, 484 were found usable for data analysis.

Data analysis methods

Descriptive analysis was conducted on the data and non parametric methods were used. Regression analysis technique was used to explore and determine the relationships between the various decision variables. SPSS 17 software was used to carry out the analysis.

FINDINGS AND ANALYSIS

Internet usage

The analysis of internet usage reflected that less than a half of the respondents (47%) access internet for 2 to 4 hours per day, while a third (30%) use internet for less than 2 hours per day and about one fifth (22%) are use internet for more than 5 hours per day. Thus the average time of internet usage of Indian online users are 2.6 hours daily (See Table 1).

Perceived risks

The results (see Table 2) displayed that all the eight measures of perceived risk scored mean value higher than 6. This indicated that the respondents had high level of perceived risks in all the eight parameters. The respondents have expressed highest risk factors related to the delivery of products purchased online. More than three-fourths of the sample has given highest importance to the statement that "products purchased online must be delivered undamaged" (79 percent) and "delivered products must match those described on the website" (77 percent).

Website Attributes

Indian online users were asked to rank eight website attributes with respect to any online buying website. The results (see Table 3) showed that attributes preferred in decreasing order were: Information quality, Product range, After online sales service, Visual design, Web atmosphere, Recommendation by relatives, Recommendation by other buyers and lastly, Fun ($p < 0.000$).

Information quality was the most highly ranked. Content is king for online marketing (Hahn and Kim, 2009). Content quality deals with attributes such as information usefulness, completeness and accuracy. Information quality also refers to specific content, such as finding specific details about product and services, customer support, privacy policies and other important information. The second most preferred website attribute was the product range. Online consumers review an online retail firm highly only if the website displays a variety of product range. Consumers undertake a great deal of information search before actual buying. So the range of products available for online shopping matters considerably to online consumers.

Visual design was the third most preferred website attribute. Visual design refers to the visual attractiveness of a website, such as colors, fonts and multimedia features. A well designed website can enhance the probability of a favourable impression as the viewer responds to visual cues, and a viewer with a favourable impression of a website is more likely to become a customer.

Relationship between website attributes and internet usage

The results (see Table 4) revealed that internet usage influences the ranking of preferred website attributes. When the duration of internet usage increases, the online user prefers information quality, after sales service, recommendation from other buyers and product range. Such a user's preference for the following website attributes decreases: recommendation from relatives, visual design, fun and website atmosphere. When we compare the two 'types' of website attributes according to increasing and decreasing preferences, we find that online users, with increasing usage, tend to prefer attributes which enhance utilitarian value and are less enamoured of website attributes that enhance entertainment (hedonic value). This shift in preference of website attributes with internet usage suggests that the confidence of the online internet shopper increases with greater internet usage.

Perceived risks and intent to do online purchase in future

Literature indicated that higher the perceived risk, lower will be the intention to do online purchase in future. The data collected was analyzed for testing this association applying the correlation statistics. The finding (see Table 5) revealed that though there is positive correlation between all eight types of the perceived risks and intention to purchase, but the degree of correlation is very low. These results indicate that in case of Indian online users, perceived risks related to internet are not influencing their attitude towards future intention to do online purchase. This behaviour is different from the findings done in other countries of similar nature. The unique behavior as shown by Indians is may be due to their 'risk averse' nature due to a collectivist culture of India.

DISCUSSIONS AND CONCLUSIONS

The study established that the highest perceived risks regarding online shopping that Indian online users have are those related to security of credit card information, confidentiality of personal information and trust in e-retailers

Converting online visitors into buyers is one of the biggest problems that many online businesses face in daily basis. During online shopping, trust is a vital factor for consumers to make purchase decision since consumers often perceive risks involved in online transactions. This study established that consumers may feel uncertain about purchasing products online, if they need to give out their personal information such as credit card numbers. This was similar to findings of other past studies (Liebermann and Stashevsky 2002; Constantinides, 2004; Zhou, 2008). Also, unlike past studies by Hahn and Kim (2009), perceived risks did not show negative correlation with future purchase intent. In fact the study revealed very low negative degree of correlation (-0.08) between perceived risks and future intent. This finding was similar to that of Kuhlmeir and Knight (2004).

This indicates that the collectivist nature of Indian society helps individual online users to overcome their perceived risks related to online shopping and they still will intend to do online shopping. Moreover in a populous country like India where one has to stand in long queues and travel dusty roads, given a choice, online user will buy travel tickets and do small item purchases (CDs, books, gifts) through the internet. Unlike in offline retail stores, the inability to interact with a salesperson and the merchandise, as well as the reliance on electronic payment methods, increases the perceived risk of online shopping. Hence, website attributes are highly important to induce online users to become buyers. The study found that website attributes preferred by Indian online users changed with internet usage and past online buying experience. Highly preferred attribute was recommendation by relatives and other buyers: India has a collective culture. Here the influence (referrals and recommendations) of friends, family, and media recommendations on shopping is very high. Recommendations of a retailer's online operations have dominant effect on online trust.

There have been certain limitations of scope in this study. However, these could be addressed in future research. Studies have established that psychological perception also influences online shopping trust, risk and benefit. A consumer's trust in a company can play an important role in reducing any uncertainty about online shopping. Future study can be done to understand how to enhance perceived benefit and trust in an online user.

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TABLES

Table 1 : Internet Usage of Indian Online users

Variables	Findings	Percentage	Significance Tests Results
Daily Internet Usage	Less than 2 hours per day	30.2	$t=21.9$ $d.f.=483$ $p<0.05$
	2 to 4 hours per day	47.0	
	5 to 7 hours per day	13.3	
	8 to 12 hours per day	8.1	
	More than 12 hours per day	1.4	

Table 2 : Perceived Risks of Indian online users (ranked)

Perceived Risks (n=367)	Mean (7 = Most Important, 1=Least important)	Percentage (in Likert Scale)						
		Very important (Scale 7 to 5)			Neutral (Scale 4)	Least Important (Scale 1 to 3)		
Products purchased online must be delivered undamaged	6.70	78.7	14.8	4.9	1.1	0.3	0.3	0
Delivered products must match those described on the Website	6.67	76.8	16.1	4.6	1.9	0.5	0	0
Credit card information used for online purchases must be secure.	6.58	78.2	10.6	5.4	4.1	0.5	0.8	0.3
Online purchases must be delivered in a timely manner	6.51	67.3	21.0	8.2	3.0	0.5	0	0
Online retailers must be trustworthy	6.49	70.8	15.5	7.9	3.8	1.4	0.5	0
Personal information provided for online purchases must be confidential	6.38	68.1	15.0	8.7	5.2	1.6	0.5	0.8
Contacting customer service must be easy for online purchases	6.11	51.0	25.3	11.4	8.4	3.3	0.5	0
Product returns must be easy for online purchases	6.08	51.2	22.1	13.4	11.4	1.1	0.5	0.3

Table 3 : Most preferred Website Attributes (rank order, where 1 = highest rank, 8= least rank) (n=484)

Website Attribute	Mean	Std. Deviation	t	Rank
Information Quality	2.63	1.859	27.04**	1
Product Range	2.68	1.780	28.69**	2
After Online Sales Service	4.26	2.323	34.95**	3
Visual Design	4.29	2.279	35.91**	4
Website Atmosphere	4.33	2.144	38.53**	5
Recommendation by Relatives	4.48	2.139	39.94**	6
Recommendation by Buyers	4.87	2.087	44.53**	7
Fun	5.50	2.306	45.47**	8

Table 4: Ranking of Website Attributes (1= highest rank, 8= least rank) based on Internet usage (n=600)

Internet Usage	Visual Design	Info. Quality	Pdt. Range	Web Atm	After online sales service	Recom m Buyers	Recom m Relati ves	Fun
Less than 2 hours	179.6	198.4	184.5	175.6	193.0	175.5	179.4	174.8
2 to 4 hours	181.5	174.8	187.7	181.4	184.0	193.9	189.9	183.1
5 to 8 hours	187.3	181.8	160.9	187.3	160.2	157.7	158.4	189.1
More than 8 hours	187.4	151.4	167.1	219.8	152.6	165.4	186.6	196.2
Preference of website attributes with increase in internet usage →	decreases	increases	increases	decreases	increases	increases	decreases	decreases

Table 5: Correlation matrix between the eight types of perceived risks and intention to do online purchase in future

		Credit Card Trust	Percvd Info	Trust	Timely Delivr	Match Pdts	Undamaged Pdts	Returns Easy	Easy Service
One Yr	Pearson Correlation	0.06	0.03	0.03	0.04	0.01	0.07	0.02	0.1*
Three Mths	Pearson Correlation	0.02	0.00	0.03	0.03	0.01	0.05	0.05	0.09*