

# An Analytical Study of Impact of Consumer Characteristics, Website Characteristics & Product Category on Consumer Information Search Behaviour and Intention to Transact On-Line a Pilot Study

<sup>1</sup>Machhindranath R.Koshti, <sup>2</sup>Shailesh P. Kasande

<sup>1</sup>Research scholar at Savitribai Phule University of Pune, India

<sup>2</sup>Dean, Research cell, Vishwakarma Institute of Management, Pune, India

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**Abstract:** The rapid growth of internet in last two and half decades has provided a vast scope for research activities related to internet. One of the areas of research is e-commerce. As one of the marketing channels, e-commerce can be used to display product information as well as to do the transactions. Internet buying and e-commerce has a global reach and several corporations count on global markets for expansion and growth. However consumers in different countries exhibit different behavior while buying on internet because of the cultural differences. Thus, though there are several studies done in foreign countries on e-buying behavior, they cannot be extended to India. One of the researchers therefore planned to do a doctoral study of e-buying behavior in India. The objective of this paper is to report how the researchers benefitted from the pilot study and to highlight why any researcher should do a proper pilot study before venturing in to a full-fledged survey.

**Keywords:** E-buying behavior, E-commerce, E-store, Internet, Internet marketing, On-line consumers, Risk averseness.

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## I. INTRODUCTION

The development of the Internet provides unprecedented opportunities and challenges to the private as well as the public sectors in both developed and less developed countries. The Internet provides a platform for a global marketplace, supporting e-commerce (electronic commerce). In this setting, as more suppliers and buyers enter the arena at low cost but with fast immediate outcomes, the benefits of participation grow exponentially. Total retail e-commerce in the United States (U.S.) alone exceeded \$45 billion in 2002 and achieved an estimated growth of 25%. E-commerce outside of the U.S. reached \$1,584 billion in 2004 ([www.idc.com](http://www.idc.com)). By 2007, the International Data Corporation (IDC) expects Internet users will access, download and share the information equivalent of the entire Library of Congress more than 64,000 times over, every day (Zhao et al. 2007).

The paper now discusses literature review, followed by methodology, analysis & outcomes, personal observations, and contributions of the study.

## II. LITERATURE REVIEW

Internet marketing can be defined as the process of building and maintaining customer relationships through the online activities to facilitate the exchange of ideas, products and services that satisfy the goals of both buyers and sellers (Razali et al. 2010).

E-store is one of the essential elements of internet marketing. Chen (2003) defined e-store as internet transaction or retail website that engages in the direct sale of products to the consumers. Moe and Fader (2001) observed that the Internet is an ideal medium for e-commerce marketers to experiment with minor adjustments in their store environments and promotions in an effort to identify the most effective marketing mix.

An investigation of on line consumer purchasing by Jayawardhena, Wright and Rosalind Masterson (2003) reveals that online consumers follow the same pattern of behaviour as their offline counterparts, but they do it faster, and more thoroughly.

On line shoppers are normally the persons who spend long time on internet. The more time individuals spend online, the more purchasing activity is there for both low and high-risk consumer products (i.e., book and music versus apparel and investments). Prior research indicated that people who spend more time on the Internet also buy more (Donthu & Garcia 1999 cited in Lynch & Beck 2001)

Lynch and Beck (2001) studied the profiles of internet buyers in 20 countries and found evidence for region-specific strategies because of the cultural differences. The studies done in the foreign countries therefore can not be extended to the Indian consumers.

As no comprehensive study on Indian consumers' e-buying behavior could be located the researchers planned to study the e-buying behavior in India.

However, before doing a full-fledged study, it is advisable to carry a pilot study (Cooper & Schindler 2006).

Pilot study, is a small scale preliminary study conducted in order to improve upon the study design prior to performance of a full-scale research. A pilot test is conducted to detect weaknesses in Research methodology and Data collection instrument. Pilot testing has saved countless survey studies from disaster by using the suggestions of the participants to identify and change confusing, awkward, or offensive questions and techniques.

Pre-testing the questionnaire results in following benefits.

1. It discovers ways to increase participant interest.
2. It increases the likelihood that participant will remain engaged till the completion of the survey.
3. It discovers question content, wording, and sequencing problems.
4. It discovers target question groups where researcher training is needed.
5. It explores ways to improve the overall quality of survey data.

The size of the pilot group may range from 25 to 100 subjects, depending upon the research method to be tested, but the participants do not have to be statistically selected (Cooper & Schindler 2006).

## III. METHODOLOGY OF THE PILOT STUDY

### **Design of the instrument:**

A questionnaire was used as an instrument to collect the data about Intention to transact on-line and some personal traits of the internet users.

The scale for measuring the Intention to transact on-line (ITOL) was adopted from Ling, Chai, and Piew (2010), Boshoff, Schlechter and Ward (2009), Carlson and O'Cass (2010), Jeong et al. (2009), Kim, YH, Kim, DJ and Hwang (2009), Huang (2008), Ling et al. (2011), Salisbury et al. (2001), and Muthaly and Hong-Youl (2009).

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The scale was modified to contain 16 items of which following 14 were considered after factor analysis.

**TABLE: I Scale for ITOL**

1.	I will make a purchase transaction on internet in the near future.
2.	If a website on internet offers the product I need, I will probably purchase it on the internet.
3.	I wouldn't mind purchasing a product on internet on behalf of someone else.
4.	I will buy on the web sites, on which I made a purchase in the past.
5.	I intend to use the Web (internet) to purchase products.
6.	I will increase purchases through the e-shops.
7.	Given a choice of buying from a shop and buying on internet, I would prefer to purchase products on internet.
8.	I would like to buy new products offered on internet.
9.	It will be a routine activity for me to purchase products using internet.
10.	I see myself buying more and more products on internet.
11.	I consider internet as main avenue for purchasing products.
12.	I see more percentage of my purchases happening on internet.
13.	I consider buying on internet has many advantages over buying from a shop.
14.	I will say positive things about buying on internet.

(Cronbach Alpha Value 0.933, KMO value 0.82)

The scale for Adventurousness was adopted from John, Alicia and Brad (2008) and has following 7 items.

**TABLE: II Scale for Adventurousness**

1.	My friends say that I am adventurous.
2.	I feel it challenging to do difficult things.
3.	I like to use new technologies.
4.	I like to visit new places.
5.	I prefer variety to routine.
6.	I try out new things.
7.	I am open to change.

(Cronbach Alpha Value 0.846, KMO value 0.79)

The scale for Risk averseness (6 categories of risk) was adopted from Boshoff, Schlechter and Ward (2009), and Liebermann and Stashevsky (2002).

It contained total of 30 items of which following 26 were considered after factor analysis.

**TABLE: III Scale for Performance risk**

1.	I am concerned about the website's performance while purchasing on it (e.g. Credit card swiped but hotel voucher not produced for a stay in hotel. I had to swipe the card again, resulting in double payment).
2.	I am concerned that the product delivered may not be exactly as it appeared when displayed on the computer screen.
3.	I am concerned that the rating of the product given on website is a false indication of the actual product quality.

(Cronbach Alpha Value 0.854, KMO value 0.82)

**TABLE: IV Scale for Economic risk**

1.	It is not safe to give my credit card number when I order on internet.
2.	The website owners may not send the product after I made payment.
3.	I am concerned about the ultimate price of the product when purchasing at internet because there might be hidden costs.
4.	I am concerned that my financial details might not be adequately protected if I purchase on internet.

*(Cronbach Alpha Value 0.857, KMO value 0.802)*

**TABLE: V Scale for Time risk**

1.	I am afraid that the product bought on website will not be delivered when expected.
2.	I am concerned about the time delay between ordering and receiving products bought on internet.
3.	The website owners might not have my products in stock and I will have to wait for them to get it in stock.
4.	It would take too much time to return something to website owners if I do not like the delivered products (bought on website).
5.	I am concerned about the time it takes to purchase a product on internet (Have to make several attempts if transaction fails repeatedly).

*(Cronbach Alpha Value 0.845, KMO value 0.705)*

**TABLE: VI Scale for Social risk**

1.	Purchasing a product on internet will lower my esteem amongst my friends.
2.	If I bought a product on internet, my friends would think that I am not cool.
3.	If I bought a product on internet, some friends would think I am trying to show off.
4.	My friends would not encourage me to purchase a product on internet.
5.	The website on which I am buying may give my personal details to other companies without my consent.
6.	If I purchase on the website, I will miss the human side of the purchase which happens in a shop.

*(Cronbach Alpha Value 0.778, KMO value 0.704)*

**TABLE: VII Scale for Physical risk**

1.	I am concerned that purchasing on internet could lead to eyestrain because of frequent exposure to computer screen during shopping.
2.	I am concerned about viruses infecting my computer while I shop on internet.
3.	I am concerned about getting carpal tunnel syndrome (pain in wrist caused by keyboard and mouse usage) while shopping online on internet.
4.	I am concerned that shopping on internet could lead to back pain because of my posture when sitting in front of the computer for extended periods of time.

*(Cronbach Alpha Value 0.904, KMO value 0.75)*

**TABLE: VIII Scale for Psychological risk**

1.	I think shopping on internet will harm my self-image.
2.	The thought of shopping on internet causes me to experience unnecessary tension.
3.	The thought of shopping on internet makes me feel uncomfortable.
4.	Shopping on internet will lead to too much social isolation.

*(Cronbach Alpha Value 0.889, KMO value 0.789)*

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The scale for Internet transaction self efficacy was adopted from Kim, YH, Kim, DJ and Hwang (2009), and contained following 4 items.

**TABLE: IX Scale for Internet transaction self efficacy**

1. I am confident that I can obtain relevant information through online sources (e.g., online discussion groups, reputation sites, etc.) on the Web vendors from whom I am planning to make online purchases.
2. I am confident that I am usually able to purchase exactly the item that I want from Web vendors.
3. I am confident that in case my order placed on internet does not come through in a satisfactory manner, I am able to take care of the problems on my own.
4. I am confident that I am able to find a trustworthy Web vendor based on ratings (e.g. the number of the stars or the smiley faces) provided by other consumers.

*(Cronbach Alpha Value 0.849, KMO value 0.803)*

The responses from the sampling units were captured on 7 point Likert scale (1-Strongly disagree, 4-Not sure, 7- Strongly agree).

**Pilot survey:**

The pilot survey was carried in the year 2013. Total 50 persons who were using internet for variety of purpose in Mumbai were called on personally by the researcher and were asked to fill up the questionnaire. Of them 82% were married/14% single, 38% had income of 5-7 lacs pa, 72% were post graduate, 44% were 25-35 years old, 62% were females/36% males, and 92% stayed in metro cities / 4% in non-metros.

**Analysis & outcomes:**

The pilot study revealed the following after analysis of averages and correlation coefficients. As the sample size is only 50, these observations can not be generalized. The numbers in the brackets indicate mean or correlation coefficient as per the context.

1. There is almost zero co-relation (-0.025) between internet self efficacy and the amount of time spent on internet to search product related information.
2. There is a positive correlation (0.545) between Intention to transact online (ITOL) and time spent in searching product information on the internet.
3. Respondents feel “time spent on a website is more if it is easy to use” (Mean 4.51 is more than 4 which indicates “Not sure”).
4. Respondents feel “Time spent on a website is high if it offers more variety of products” (Mean 4.63 is more than 4 which indicates “Not sure”).
5. Consumers search information for all types of products (goods & services mentioned in questionnaire) on internet. Travel happens to be the mostly searched item (42/50), followed by books (39/50), electronic goods (36/50), and music (31/50). The categories Beauty products (5/50) and FMCG (3/50) are the least searched.
6. There is a weak positive correlation (0.197) between consumer’s adventurism and Intention to transact online (ITOL).
7. There is a moderate negative correlation (-0.324) between Risk averseness and ITOL.
8. Males (4.59) have more ITOL than females (3.54).
9. There is weak correlation (0.176) between education and ITOL.
10. Metro residents have more ITOL (3.9) than non metro residents (2.9).
11. There is a weak correlation (0.170) between age and ITOL.
12. IT related employees (3.4) have less ITOL than non-IT (4.2).

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13. There is a moderate correlation (0.379) between time spent on internet and ITOL.
14. There is a moderate positive correlation (0.362) between on line transaction self efficacy and ITOL.
15. There is a weak correlation (0.116) between income and ITOL.
16. Internet Banking users have more ITOL (4.1) than non- Internet Banking users (3.0).
17. Phone banking users and non users have same ITOL (both 3.86).
18. Credit / debit card holders have almost same ITOL (3.9) as non-holders (4.1).
19. Tele(TV)-shoppers have almost same ITOL (3.9) as non shoppers (3.8).
20. Catalogue buyers have almost same ITOL (4) as non-buyers (3.8).
21. Internet users who have internet connection at the home have same ITOL (3.8) as the ones who do not have (3.8).
22. There is weak correlation (0.186) between number of foreign trips and ITOL.
23. Singles have more ITOL (4.3) than the married (3.7).
24. Social site users have moderately more ITOL (3.9) than non-users (3.5).
25. On –line share traders have more ITOL (4.2) than non-traders (3.7).
26. There is moderate positive correlation (0.368) between internet transaction self efficacy and ITOL.
27. There is moderate positive correlation (0.396) between extent of internet use and ITOL, which confirms the findings in literature review (Donthu and Garcia 1999 cited in Patrick D Lynch, John C Beck 2001).
28. The consumers do not necessarily prefer to e-buy form sites who had established brick n mortar shops. (The purchase volume from such sites Rs 81000 is not first but 3<sup>rd</sup> highest).
29. “Cash on delivery (COD)” is the most preferred option by consumers (COD has lowest Rank sum 57).
30. Consumers do not buy products which require touch and feel e.g. apparels, shoes, beauty products on internet (Mean 5.4 much higher than 4 which indicates “not sure”).
31. Consumers prefer to buy products online where there is instant gratification e.g. cinema /travel tickets, hotel booking, music, shares, books in soft copy form etc. (Mean 4.62 is higher than 4 which indicates “not sure”).
32. Type of brands preferred to buy on internet 1) Unbranded but good quality products with Rank total 34 2) International brands with rank total 39.

**Personal Observations:**

As the researchers were present with respondents while they filled up questionnaire and then personally entered data in SPSS table, they could make some personal observations which are as follows.

1. Respondents seemed tired to answer 64 continuous questions based on Likert scale. (Suggestion - Break the Likert based questions in groups separated by questions of different type e.g. demographic ones).
2. One respondent said he never purchased anything using internet so far. In the next table he says he has purchased travel/cinema tickets worth Rs 1000. The first question he thought was for goods. (Suggestion - Clarify in the first question that it includes services also like cinema and travel).
3. Some respondents felt that some prominent products and sites were not included. (Suggestion - Add Baby care products, and Snapdeal at proper places)
4. While answering questions based on ranking many respondents did not rank all. Some put tick instead of a number. (Suggestion - Put all the ranks and ask them to tick their choice).
5. One respondent remarked “Not clear” on the question of financial risk in e-buying. (Suggestion – Reword the question)

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6. One respondent after reading the question which contained the word “esteem” asked “what is esteem?” (Suggestion – Replace the word esteem with a simple and understandable word.)
7. On the statement “I think shopping on internet will harm my self-image.” One respondent remarked – “Too strongly worded” (Suggestion – Reword the question).
8. The questions were not coded in the questionnaire. While entering data in SPSS, codes had to be written on all the questionnaires with pencil which was quite laborious and prone to manual errors. (Suggestion – Pre-code the questionnaire).

### IV. CONTRIBUTION OF THE STUDY

This pilot study has contributed to the literature in the following ways.

The study has illustrated that the pilot study indeed gives the benefits identified by Donald R Cooper and Pamela Schindler (2006) and few other benefits as follows.

1. It discovered that continuous 64 questions on Likert scale decreased participant interest and identified the necessity to modify the questionnaire.
2. It discovered the questions which were difficult for the respondent to understand. It also discovered that the Likert scale questions may be broken in to groups for increasing the interest of the respondent in completing the questionnaire.
3. It discovered the questions (e.g. question about ranking the payment options) on which field investigator’s training was needed.
4. It revealed the necessity to pre-code the questionnaire thereby improving the overall quality of survey data.
5. It helped in validating scales.
6. This study particularly provides scales for ITOL (Intention to transact on-line), adventurousness, various risks, and internet transaction self-efficacy.
7. The personal observations of the researchers will help in re-designing the questionnaire, and
8. The findings of the pilot analysis will help in formulating hypotheses for the full scale study to follow.

The researchers will therefore finally like to suggest to the fellow-researchers to always do a pilot study in order to make any of their subsequent full-fledged surveys more effective.

### REFERENCES

- [1] C. Boshoff, C. Schlechter, and S. Ward, “The mediating effect of brand image and information search intentions on the perceived risks associated with online purchasing on a generically-branded website,” *Management Dynamics*, vol. 18, no. 4, pp. 18-28, 2009.
- [2] C. Jayawardhena, L.T. Wright, and R. Masterson, “An investigation of online consumer purchasing,” *Qualitative Market Research*, vol. 6, no. 1, pp. 58-65, 2003.
- [3] Chen Zhan, “Consumers’ value perception of an e-store and its impact on e-store loyalty intention,” *ProQuest Dissertations and theses*, 2003.
- [4] Donald R. Cooper, and Pamela Schindler, *Marketing research, concepts and cases*, Tata McGraw-Hill, New Delhi, 2006.
- [5] E. Huang, “Use and gratification in e-consumers,” *Internet Research*, vol. 18, no. 4, pp. 405-426, 2008.
- [6] H. Zhao, S. Kim, T. Suh, and J. Du, “Social institutional explanations of global internet diffusion: A cross-country analysis,” *Journal of Global Information Management*, vol. 15, no. 2, pp. 28-29,35-55, 2007.

**International Journal of Novel Research in Marketing Management and Economics**Vol. 2, Issue 3, pp: (1-8), Month: September-December 2015, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

- [7] J. Carlson and A. O'Casey, "Exploring the relationships between e-service quality, satisfaction, attitudes and behaviours in content-driven e-service web sites," *The Journal of Services Marketing*, vol. 24, no. 2, pp. 112-127, 2010.
- [8] K.C. Ling, D.B. Daud, T.H. Piew, K.H. Keoy, and P. Hassan, "Perceived risk, perceived technology, online trust for the online purchase intention in Malaysia," *International Journal of Business and Management*, vol. 6, no. 6, pp. 167-182, 2011.
- [9] K.C. Ling, L.T. Chai, and T.H. Piew, "The effects of shopping orientations, online trust and prior online purchase experience toward customers' online purchase intention," *International Business Research*, vol. 3, no. 3, pp. 63-76, 2010.
- [10] N.R. Muhammad, Z. Manaf, and M.Y. Azlina, "Internet business strategies by property companies in Asia," *Property Management*, vol. 28, no. 4, pp. 270-289, 2010.
- [11] P.D. Lynch, and J.C. Beck, "Profiles of Internet buyers in 20 countries: Evidence for region-specific strategies," *Journal of International Business Studies*, Washington, vol. 32, no. 4, pp. 725-748, 2001.
- [12] S. Muthaly and H. Hong-Youl, "Four alternative models of online purchase behavior in the Asia-Pacific Region: A lesson of gender difference from South Korea," *Asia Pacific Journal of Marketing and Logistics*, vol. 21, no. 2, pp. 267-279, 2009.
- [13] S.W. Jeong, A.M. Fiore, L.S. Niehm, and F.O. Lorenz, "The role of experiential value in online shopping: The impacts of product presentation on consumer responses towards an apparel web site," *Internet Research*, vol. 19, no. 1, pp. 105-124, 2009.
- [14] T.K. John, A.S. Alicia, and A.H. Brad, "Middle Response Functioning in Likert-responses to Personality Items," *J Bus Psychol*, vol. 22, pp. 251-259, 2008.
- [15] W.D. Salisbury, R. Pearson, A. Pearson, and D.W. Miller, "Perceived security and world wide web purchase intention," *Industrial Management + Data Systems*, vol. 101, no. 3/4, pp. 165-176, 2001.
- [16] W.W. Moe and P.S. Fader, "Uncovering patterns in cyber-shopping," *Berkeley*, vol. 43, no. 4, pp. 106-119, 2001.
- [17] Y. Liebermann, and S. Stashevsky, "Perceived risks as barriers to Internet and e-commerce usage," *Qualitative Market Research*, vol. 5, no. 4, pp. 291-300, 2002.
- [18] Y.H. Kim, D.J. Kim, and Y. Hwang, "Exploring online transaction self-efficacy in trust building in b2c e-commerce," *Journal of Organizational and End User Computing*, vol. 21, no. 1, pp. 37-59, 2009.