

# Effect of Personality Traits on Intention to Transact on Line - An Empirical Study

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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/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 can not be extended to India. The researcher therefore planned to do a doctoral study of e-buying behavior in India. As a part of this study this paper examines effect of some personality traits of the internet users in Maharashtra state in India on their intention to transact on line (ITOL). The results show that three traits namely Web-adventurism, e-buy history, and risk averseness affect the ITOL of the internet user in that order. Risk averseness affects ITOL negatively. The demographics (Age, Years of service, Income) and exposure (education, foreign travel) do not affect ITOL significantly. The paper then discusses the contribution and limitations of the study.

**Keywords:** B2C Marketing, E-buying behavior, Electronic commerce, E-store, Internet, Internet marketing, Risk averseness.

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## I. INTRODUCTION

The Internet provides a platform for a global marketplace, supporting 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, contributions and limitations of the study.

### *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 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 and Garcia, 1999 cited in Lynch and Beck 2001)

A study on consumers' age by Stranahan and Kosiel (2007) found that younger people are the most frequent online shoppers and spend the most. Seniors over age 65 on the other hand, are the group most likely to avoid e-tail altogether and spend the least online.

Sung and Jeon (2009) proposed classification of Internet users into Economical Shopper, Recreational Shopper, Fashion/brand Shopper, Fashion Follower, and Individualistic Shopper. Each segment presented different characteristics in demographics and internet usages. In addition, each segment evaluated e-retailers' attributes differently. Fashion/brand Shopper presented the highest levels of overall satisfaction and intention to purchase fashion goods online, while Fashion Follower showed the opposite.

While studying gender differences in purchase intention of music downloads, Nel, Jacques Raubenheimer, Jacques and Bounagui (2009) found that gender moderated the influence of Perceived trust, Perceived enjoyment and Self-efficacy on Behavioural intention. Perceived trust and Perceived self-efficacy had a stronger influence on Behavioural intention for females than for males, while the opposite was true for the influence of Perceived enjoyment on Behavioural intention.

Results of a study by Gong and Maddox (2011) indicate that Chinese consumers have favorable perceptions toward shopping online and are adopting it enthusiastically. In general, wealthier, highly educated married Chinese with children tend to use the Internet more at virtually every stage of the buying process. Interestingly, gender had virtually no effect, contradicting the findings of Nel, Jacques Raubenheimer, Jacques and Bounagui (2009).

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 and specifically to Maharashtra state consumers.

As no study on Maharashtra consumers' e-buying behavior and personal traits could be located, the researcher planned to study how Maharashtra internet users' personal traits affect their Intention to transact on-line (ITOL).

## **II. METHODOLOGY**

### ***1. 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.

In the questionnaire, 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).

The scale was modified and contained 16 items initially which reduced to 11 after the pilot study and factor analysis.

The scale for Risk averseness (6 categories of risk, total 26 items) was adopted from Boshoff, Schlechter, and Ward (2009), and Liebermann and Stashevsky (2002).

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

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

The questionnaire was pilot tested on 50 respondents and suitable modifications were done in it.

### ***2. Survey:***

The modified questionnaire was given to 625 internet users in Maharashtra state by the field investigators who were management students in the year 2014. Out of 625, as many as 559 respondents returned the filled in questionnaires. Discarding 16 for incompleteness 543 (87% of 625) questionnaires were considered for analysis.

Out of 543 respondents 65% had 5 or more years of internet experience, 40% were in 20-25 years age group, 70% had e-buying history, 55% were graduates, 55% were males, 60% were married, 95% resided in metro city (Mostly Mumbai)/5% in non-metro, and 40% had income below Rs 2 lacs per annum.

### 3. Analysis and findings:

A total of 20 personality traits were mentioned in the questionnaire. Regression analysis of these traits individually on Intention to transact on-line (ITOL) indicated that the following 3 traits (having significance value more than 0.05 as shown in table 1) were not significant.

1. E –buy performance risk – Respondent’s perception that the e-store does not supply the product as shown on the screen
2. E-buy time risk – Respondent’s perception that e-store takes long to deliver
3. E-buy physical risk – Respondent’s perception that using internet results in back pain, wrist pain etc. as e-buying involves sitting in front of computer screen and use of mouse and key pad

**Table I: Insignificant Variables**

Personal Trait	Coefficient value	Coefficient significance	R Square value	R Square significance
E –buy performance risk	-0.030	0.504	0.029	0.504
E-buy time risk	-0.069	0.132	0.004	0.132
E-buy physical risk	0.000	0.993	0.000	0.993

The multiple regression of remaining 17 traits on ITOL indicated following.

#### a. Significant independent variables (personality traits with p value less than 0.05):

1. E-buy history – Period in years the respondent had been e-buying (p=0.017)
2. E-buy transaction number – The number of e-buying transactions done so far by the respondent (p=0.007)
3. Adventurousness – Perception of the respondent about how adventurous he is (p=0.000)
4. E-buy self efficacy – Respondent’s perception about his own capability of using internet for buying products and services (p=0.000)

#### b. Controversial independent variables (personality traits) found in the above regression:

1. Internet time (Coefficient = -0.008, p= 0.563) – This trait had negative sign in the regression. This means more the time respondent spends on internet, lower is his intention of e-buying. This contradicts the finding mentioned in the literature review (Donthu and Garcia, 1999 cited in Lynch and Beck 2001) that heavy internet users e-buy more.
2. Personal income (coefficient = -0.002, p=0.971) – The negative sign of this trait in the regression means more the income the lesser the intention to transact on-line. This contradicts the finding mentioned in the literature review (Gong & Maddox 2011).
3. Foreign trips (coefficient = -0.086, p=0.158) – The negative sign of this trait in the regression indicates that more the person visits foreign countries, the lesser will be his intention to transact on line. More exposure to foreign countries should actually induce the respondent for more e-buying as e-buying is quite common in the foreign (especially developed and developing) countries.

The above controversies may be because of multi-co-linearity among the 17 personal traits.

To remove the effect of multi-co-linearity a Factor analysis of those 17 personality traits was carried out. Table 2 gives the result of factor analysis.

**Table II: Rotated Component Matrix<sup>a</sup>**

	Component				
	1	2	3	4	5
165 Internet time	.666	.053	.079	.197	.023
4Age	-.038	.010	.917	.007	-.004
13 Weekly search hrs	.665	.077	-.024	.089	-.041
27 First purchase on net	.693	-.247	.089	.134	.111
28 Net transactions	.736	-.218	-.009	.094	.115
32 Education	-.038	-.046	.036	.197	.878
213 ebuy volume	.460	-.373	.149	.005	-.178
62 I can use internet without anybody's help	.180	.063	-.081	.728	.081
155 Adventurous	.059	-.076	-.086	.723	.059
87 Years in service / business	.064	.004	.938	-.012	.004
157 Fin Risk	-.201	.712	.129	.045	-.124
159 Social risk	.014	.860	-.039	-.076	.061
161 Psycho risk	.006	.825	-.086	-.230	.016
121 Foreign trips	.396	.009	.364	-.129	.397
163 ebuy self efficacy	.278	-.182	.083	.633	.012
127 I found it very difficult to return products	-.168	.465	.019	.378	-.163
132 Personal income	.320	-.077	.571	-.182	.404

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Using 0.5 as cut off point we get 5 factors titled as follows.

**Factor 1 (e-buy history):**

1. Time spent on internet – Weekly time spent on internet
2. Weekly product search hours – Number of hours in a week spent on searching product information on internet
3. E-buy history
4. E-buy transaction number
5. E-buy volume – Amount in rupees for which products/services bought on internet so far (In spite of loading of 0.46, e-buy volume was considered in this factor as it did not load other 4 factors that much)

**Factor 2 (Risk perception):**

1. Financial risk – Respondent's perception that e-buying results in his personal financial details getting leaked
2. Social risk - Respondent's perception that e-buying deprives him of social pleasure that he gets from buying from physical stores
3. Psychological risk – Respondent's perception that e-buying results in loneliness as e-buying is done from computer and does not require contact with anybody
4. Product return risk – Respondent's perception that it is difficult to return the product to the e-store and get refund if the consumer is not happy with the delivered product (In spite of loading of 0.465, product return risk was considered in this factor as it did not load other 4 factors that much)

**Factor 3 (Demographic):**

1. Age
2. Years of service
3. Income

**Factor 4 (Web-adventurism):**

1. Internet self efficacy – Respondent’s perception about his capability to use internet
2. Adventurousness
3. e-buy self efficacy

**Factor 5 (Exposure):**

1. Education of the respondent
2. Foreign trips undertaken by the respondents (In spite of loading of 0.397, foreign trips was considered as it did not load other factors that much)

**Table III: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.602	21.187	21.187	3.602	21.187	21.187	2.567	15.098	15.098
2	2.344	13.789	34.976	2.344	13.789	34.976	2.451	14.417	29.516
3	1.940	11.411	46.387	1.940	11.411	46.387	2.264	13.316	42.831
4	1.371	8.065	54.452	1.371	8.065	54.452	1.817	10.691	53.522
5	1.050	6.178	60.631	1.050	6.178	60.631	1.208	7.109	60.631
6	.907	5.335	65.966						
7	.806	4.743	70.709						
8	.748	4.402	75.111						
9	.716	4.214	79.325						
10	.674	3.964	83.289						
11	.624	3.668	86.957						
12	.540	3.174	90.131						
13	.516	3.034	93.165						
14	.421	2.479	95.644						
15	.323	1.899	97.544						
16	.262	1.544	99.087						
17	.155	.913	100.000						

Extraction Method: Principal Component Analysis.

As shown in table 3, these five factors explained 60.63% variation in ITOL.

Multiple regression using SPSS of above five factors on ITOL gave the results shown in table 4.

**Table IV: Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.344	.064		67.673	.000
	219 e-buy history	.518	.064	.406	8.048	.000
	220 Risks	-.215	.064	-.168	-3.336	.001
	221 Demographics	-.050	.064	-.039	-.782	.435
	222 Web-adventurism	.582	.064	.457	9.052	.000
	223 Exposure	.068	.064	.053	1.054	.293

a. Dependent Variable: 154 ITOL

Observing Standardized Coefficients (Beta) in the above table it can be concluded that Web-adventurism affects the ITOL most (0.457) followed by e-buy history (0.406), and risk (-0.168). These factors are significant. Risk affects ITOL negatively. The other two factors namely demographics and exposure are not significant (significance values 0.435 & 0.293 respectively).

### **III. CONCLUSION**

#### **1. Contribution of the study:**

The study finds that the internet users who are confident about their internet and e-buying skills and are adventurous have the highest intention of transacting on-line.

They are followed by the group of heavy internet users who have e-buying history.

The above findings will be useful to the B2C marketing organizations who wish to use internet as distribution channel (e.g. Amazon, Flipkart, Naaptol, Myntra, Make-my-trip etc.). They will be able to segment the market based on personality traits of the internet users (Web-adventurism & e-buy history) and devise Marketing programs to influence customers to buy their products and services on their websites.

These organizations will however have to note that the risk averseness of the internet users can hamper the success of their marketing plan and they should do their utmost to protect the personal/financial information of their e-buyers and communicate to the e-buyers the measures they are taking for this purpose. They should also ensure that it is easy for the e-buyer to return the product (e.g. send a person to collect the product from customer's home at convenient time to the later rather than asking the e-buyer to bring the product to their collection centre) if he is not happy with it and refund his money promptly.

#### **2. Limitations of the study:**

The study has the following limitations.

- The study is Mumbai-centric.
- The affecting personality traits studied explain 60% variation in Intention to transact on-line. Further studies can be carried out to explore other personal traits which affect the ITOL. (e.g. Being a Mobile/internet banker, tele/catalogue shopper etc.)
- The study considered only the personality traits whose measurement is continuous in nature. The discrete traits like gender, credit card holder/non-holder, internet banker/non-banker, residence (metro/non-metro) were not considered.

A further study can be done eliminating the above limitations.

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