

Different Personality Affects Risk Perception Differently in Online Shopping: Investigation of Gender Impact

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Abstract

Online shopping is getting developed as a preferred mode of shopping and gaining importance due to various advantages over the traditional mode. Like India, the country with demographic dividend and being one of the largest e-literate populations makes it as a potential market for e-shoppers. The increasing penetration of online shopping pushes online retailers to understand the buying pattern of online consumers along with their dynamics. This work deals with exploring the impact of various personality traits of online shoppers over their risk perception and further investigates whether gender makes any difference in risk perception. Questionnaire was constructed and circulated among 510 respondents and finally 312 valid responses were taken into consideration for further analysis. T-test and multiple regression method were applied to know the perceptual difference among these male and female respondents. Further, the managerial implications and recommendations are also discussed.

Key Words: *Personality Traits, Perceived Risk, Retailing, Online shopping, Gender.*

Introduction

Retail as one of the front runner industries in India was having a total size of US\$950 billion in 2018 and expected to reach US\$1.1 trillion by 2020 with a CAGR of 13 %. Its contribution to the job creation is 8% and in GDP it is 10% as projected by Invest India (National Investment Promotion and Facilitation Agency). Changing business environment and increasing the purchasing power of the population derive new modes of retailing. Other contributing factors for the change in retailing from brick and mortar to digital mode are technology change, growing income, increasing urbanization, increasing digital literacy etc. The huge potential for growth in online retail business makes it one of the most sought out business model. At present, the size of online retail business was estimated US\$38.50 billion in 2018 (NASSCOM) and projected to US\$84 billion by 2021 (Deloitte). Further, it is expected to grow up to US\$200 billion with a CAGR of 30%. Other benefits for online retail adoption are huge deals and discounts by major companies. This shift is due to various convenience factors that could be the convenience of time, convenience of variety, the convenience of form etc. Even after having so many positive factors associated with the change in the buying style of consumers, there are few other factors which restrict the population to shift from traditional methods of shopping to this modern online method. These restraints are risks associated with online shopping. These risks are not real that means they are perception-based and felt differently by different consumers. The major perceived risks in online shopping are privacy risk, after-sale service risk, quality risk, product risk, health risk, and economic risk. Lingying Zhang et al, 2012 found eight dimensions for consumer perceived risk namely health risk, quality risk, privacy risk, economic risk, time risk, social risk, delivery risk and

after-sale risk. The perception of every individual is different, that means two consumers may not perceive these risks equally. Personality is an attribute associated with everyone which can distinguish any two individuals or can easily put them in different groups as per their personality traits. It is one of the major factors of behavior of an individual and to know about the risk perception, understanding the behavior of consumers is required (Tsao and Chang, 2010; Luchs and Mooradian, 2012). Various traits define the personality of an individual. In every individual, various traits are found in varying proportions (Allport, 1937). According to Chen in 2008, the values and preferences of a person are explained by personality traits that means these traits are the mirror image of an individual. Costa and McCrae gave the concept of big five personality traits - neuroticism, extroversion, agreeableness, openness, and conscientiousness.

Literature Review

Personality Traits

Personality is a combination of various traits in different proportion and this different proportion of various traits creates differentiation among consumers (Guilford, 1959). The dominating personality trait dominantly influences the response of individuals towards present stimuli. The Big Five model is most frequently used by researchers to study personality. The five dimensions taken under consideration in Big Five personality model are Neuroticism, extroversion, agreeableness, openness, and conscientiousness (Robu, 2007; Tsao and Chang, 2010; Luchs and Mooradian, 2012).

One of the personality traits in the Big Five personality model is Neuroticism, which shows the negative response of the respondent to any stimuli offered by marketer or present in the market. These traits emphasize the feeling of being inferior, putting self-blame, having problems in taking decisions or making any choice. As per Robu (2007), a neurotic person is unsociable, isolated and always concerned about the outcome of any situation. They want to be the center of attraction for others (Tsao and Chang, 2010). Another personality dimension is extroversion, this is somehow reverse by the neurotic person, this trait relates to positive emotions, are excitement seekers, strong emotional connect with friends, extrovert and pleasure seekers is one of the dominating traits among extroversion people (Tsao and Chang, 2010). This trait brings more acceptability for change, people having this trait are willing for change (Tsao and Chang, 2010) and their inclination is towards recognition and social status (Costa and McCrae, 1988 and Saleem, Beaudry et al, 2011). "Openness to experience" defines another personality trait that is openness, they are the people who are more receptive to new ideas. They are excited about the change, routinely bring boredom to them (Tsao and Chang, 2010). The respondents with this trait are characterized by their fascination towards theme/pattern and daydreaming. Agreeableness is taken as the fourth dimension of personality traits given by the big five personality traits model. Believe in others, being empathetic and having a philosophy of forgiving and forget. Being straightforward and trusting people is another dominant quality associated with agreeableness (Saleem, Beaudry, et al., 2011). The remaining trait dimension is conscientiousness, where any person who has a quality of being competent to take decisions, achiever, focused and achievement orientation (Robu, 2007). They think twice before making any commitment and always keep their job in perfect order.

Perceived Risks in online shopping

Perceived risk can be expressed as "the nature and amount of uncertainty perceived by consumers in completing a particular purchase decision" (Cox and Rich, 1964). Regarding decision making, perceived risk plays a vital role (Park & Stoel, 2005). Perceived risk could be of many kinds, but all of these risks as name suggest belong to the perception of the respondent that's why no two consumers may have the same level and type of perceived risk. Eight types of perceived risks in online shopping are identified by Lingying Zhang et al (2012), these are a health risk, inferior quality of the product, the privacy of consumer, economic risk pertaining to the economy associated with buying and time risk in surfing over the internet and delivering of product at the destination. Further, Ling and Guangwan (2011) found eight types of perceived risks, according to the perceived risk can be segmented to physical risk, functional risk, time risk, social risk, financial risk, psychological risk, privacy risk, and service risk.

Objective and Methodology

The study aims at analyzing the difference in the risk perception of online shoppers on the basis of their gender over the influence of their personality traits in the risk perception in e-tailing.

Hypotheses

To achieve the objective and give scientific direction to the analysis, following hypotheses are developed:

H₀: There is no significant difference in the risk perception of male and female

H₀₁: There is no significant difference in the privacy risk perception of male and female

H₀₂: There is no significant difference in the after-sale service risk perception of male and female

H₀₃: There is no significant difference in the quality risk perception of male and female

H₀₄: There is no significant difference in the product risk perception of male and female

H₀₅: There is no significant difference in the health risk perception of male and female

H₀₆: There is no significant difference in the economic risk perception of male and female

The study is descriptive in nature and a self administered scale is used to measure the varying risk perception in online shopping on the basis of different personality traits and further whether gender has any impact or not is checked. The questionnaire is segmented into three parts; the first segment includes demographic variables to know about the respondents, the second segment covers the Big five personality traits covering the five dimensions of personality that are neuroticism, extroversion, agreeableness, openness, and conscientiousness. The third segment includes the statements regarding six major perceived risks like Privacy Risk, After-Sale Service Risk, Quality Risk, Product Risk, Health Risk, and Economy Risk. A five-point scale is used to gather the data in which 5 is given to strongly agree and 1 is for strongly disagree and 3 is given for neutral.

Reliability and validity of the questionnaire are tested and it was found 0.887 and more than 0.7 value of Cronbach's α coefficient makes the questionnaire highly reliable. The convenience cum snowball sampling method is used for data collection. After scrutinizing finally 312 valid responses were considered for analysis. Out of which, 198 (63.5 %) were male and 114 (36.5%) were female. SPSS was used for the analysis, firstly t-test was applied to check whether risk perception differs significantly on the basis of gender and further total data is split into two groups on the basis of gender- male and female and multiple regression is applied on the split data to know the impact of personality trait on the total risk perception on the basis of gender.

Results & Discussion

To find whether there is a difference in the risk perception among male and female respondents t-test is applied. Further, to check the impact of personality traits over risk perception in both the cases of male and female respondents', Stepwise regression is used.

Table 1: Application of t-test

Type of Risk	t-test for Equality of Means			Mean Difference
	T	Df	Sig. (2-tailed)	
PRIVACY RISK	3.718	310	.000	Significant Difference ; 0.26194

AFTER SALE SERVICE RISK	2.091	310	.037	Significant Difference ; 0.21715
QUALITY RISK	-0.922	310	.357	No Significant difference ; -0.08652
PRODUCT RISK	2.056	310	.041	Significant Difference; 0.20970
HEALTH RISK	3.191	310	.002	Significant Difference ; 0.31058
ECONOMY RISK	.618	310	.537	No Significant difference ; 0.06563

Source: Primary Survey

Under table 1, on the basis of mean difference, it is evident that the risk perception among the respondents on the basis of their gender varies with the type of risk. In the case of privacy risk, after-sale service risk, product risk and health risk, both males and females have a different perception. In the case of Quality risk and economy risk, both males and female have almost the same risk perception statistically as there is no significant difference in their mean values.

So, H_{01} H_{02} H_{04} H_{05} are not accepted as the p-value is less than 0.05 and hypotheses H_{03} and H_{06} are accepted as the p-value is greater than 0.05.

Further to that, to analyze whether the risk perception of different gender groups is influenced by different personality traits or not. To analyze that multiple regression techniques are used on the split data. In SPSS, the data is split on the basis of gender and then multiple regression technique is applied to the data to assess the varying personality traits dominance in their risk perception.

Table 2: Model Summary for Male and Female Groups

Model Summary ^b						
Gender of respondent		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Male	1	.530 ^a	.281	.262	.54822	1.660
Female	1	.761 ^c	.579	.560	.39661	1.872
a. Predictors: (Constant), Conscientiousness, Neuroticism, Openness, Agreeableness, Extraversion						
b. Dependent Variable: Total Average Perceived Risk						
c. Predictors: (Constant), Conscientiousness, Agreeableness, Neuroticism, Extraversion, Openness						

Source: Primary Survey

Table 2 depicts the model summary regarding male respondents and Durbin Watson value is 1.660 and similarly, in the case of female respondents, it comes out 1.872, which is quite in range. As per Durbin and Watson in 1950, any value lies between 1 and 3 justifies that there is no autocorrelation between variables, which is an important assumption for applying regression technique.

Further according to Falk and Miller any value of R square more than 0.10 is considered significant to explain any dependent variable. In the case of male respondents value of R square comes out 0.262, which represents that all the five predictors of personality Neuroticism, Extraversion, Openness, Conscientiousness, Agreeableness were able to explain the risk perception behavior by 26.2%, apart from which there might be other factors which may contribute in the explanation of perceived risk in the case of male respondents. In continuation of this, in the case of female respondents, the value of R square comes out significantly on the higher side which is 0.56, which means 56% of perceived risk in e-tailing explained by these five personality traits. The significant difference in the value of R

square both in the case of male and female respondents directs that these big five personality traits explain the risk perception differently.

Table 3: Analysis of Variance for both Groups (Male and Female)

ANOVA ^a							
Gender of respondent			Sum of Squares	df	Mean Square	F	Sig.
Male	1	Regression	22.569	5	4.514	15.019	.000 ^b
		Residual	57.704	192	.301		
		Total	80.273	197			
Female	1	Regression	23.371	5	4.674	29.716	.000 ^c
		Residual	16.988	108	.157		
		Total	40.360	113			
a. Dependent Variable: Total Average Perceived Risk							
b. Predictors: (Constant), Conscientiousness, Neuroticism, Openness, Agreeableness, Extraversion							
c. Predictors: (Constant), Conscientiousness, Agreeableness, Neuroticism, Extraversion, Openness							

Table 3 represents fitness of the predicted model for both males and females with the help of ANOVA, the F value for male respondents is 15.019 and for the female respondents it comes out 29.716. In both cases, the model is significant as the p-value comes less than 0.05. All five predictors contribute to the model framing regarding the role of personality traits in predicting the risk perception in the e-shoppers.

Table 4: Effect of Personality traits on the total perceived risk in online shopping: Gender-wise Description

Coefficients ^a							
Gender of respondent			Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Male	1	(Constant)	.398	.469		.848	.397
		NEUROTICISM	.270	.048	.357	5.622	.000
		EXTRAVERSION	.066	.096	.064	.692	.490
		OPENNESS	.326	.087	.257	3.761	.000
		AGREEABLENESS	-.115	.106	-.087	-1.083	.280
		CONSCIENTIOUSNESS	.259	.091	.200	2.834	.005
Female	1	(Constant)	.533	.698		.763	.447
		NEUROTICISM	.196	.078	.200	2.524	.013
		EXTRAVERSION	.511	.130	.334	3.926	.000
		OPENNESS	.734	.119	.586	6.143	.000
		AGREEABLENESS	-.392	.098	-.273	-4.012	.000
		CONSCIENTIOUSNESS	-.263	.158	-.135	-1.662	.099

a. Dependent Variable: Total Average Perceived Risk

Under both the models, considering the male and female groups differently, the quantum of all the five personality traits in explaining risk perception is not the same. The beta value shows the strength of particular personality trait and the sign of that beta value shows the direct relation in case of positive value and inverse relation in case of negative value and the respective p-value shows the significance of that particular trait in explaining the risk perception.

With respect to this, in the case of male respondents, traits like extraversion and agreeableness come insignificant, which means that these two personality traits among respondents in the given sample do not affect risk perception in online shopping. So, for male respondents, the risk perception is derived by the other three personality traits (Neuroticism, Openness & Conscientiousness). Hence, the quantum of perceived risk of male customers can be estimated in the following way:

$$\text{Total Perceived Risk (Male)} = 0.398 + 0.357 (\text{Neuroticism}) + 0.257(\text{Openness}) + 0.200 (\text{Conscientiousness})$$

In the case of female respondents, the predicted model excludes conscientiousness as the p-value comes more than 0.05, which directs that this personality trait does not affect the risk perception of Female consumers. Therefore in the case of female customers, the important personality predictors are Neuroticism, Extraversion, Openness & Agreeableness.

$$\text{Total Perceived Risk (Female)} = 0.533 + 0.586 (\text{Openness}) + 0.334 (\text{Extraversion}) - 0.273 (\text{Agreeableness}) + 0.200 (\text{Neuroticism})$$

Conclusion & Implications

The study has considered the Big Five personality traits given by NEO-PI and major perceived risks are Privacy risk, After-sale service risk, Quality risk, Product risk, Health risk and Economy risk. It is found that gender impacts risk perception in online shopping. Both male and female respondents perceive the risk in online shopping differently in all the major perceived risks except Quality risk and Economy risk; else there is a significant different difference in the risk perception. Further to that, a systematic investigation has been done on the different personality traits of both males and female which may justify this difference in the risk perception on the basis of gender. Now, after applying the multiple regression on split data on the basis of gender, it is found that the risk perception is due to the dominance of various personality traits in those respondents. In the given sample, the perception of male respondents is due to the dominance of neuroticism as a personality trait and in the female respondents, the dominating personality trait is openness. Neuroticism is a trait that symbolizes anxiety, Impulsiveness, anger hostility, which directs that the respondents having this trait may perceive more worries for the things that may go wrong or they are short-tempered and cannot take deviations easily. They generally have a tendency to regret after any event as undesirable. So under the given sample, this trait dominates in male respondents. So, basically for the products which are for the male category of customers online retailers must ensure safe transactions, old customers review and assurance for quick redressal and product replacement. Openness, as personality traits symbolizes aesthetics, feelings and open to accept. The respondents who are having this trait consider the aesthetics of the website and a change most important element. How search navigates over the website, whether the window gets renewed on every occasion. These things add value to their perception about the newness of website and motivate them to buy. In this study, female customers have shown this trait dominating so to lure them and so marketer should work on the beautification of website along with convenient search flow.

References

- Allport, GW (1937), *Personality: A psychological interpretation*. New York; Holt.
- Allport, GW (1961), *Pattern and Growth in Personality*, New York; Holt, Rinehart, and Winston.
- Ariffin, S. K., Aun, T. L., & Salamzadeh, Y. (2018). How Personal Beliefs Influence Consumer Attitude towards Online Advertising in Malaysia: To Trust or Not to Trust?. *Global Business & Management Research*, 10.
- Costa, P. T., & McCrae, R. R. (1988). Personality in adulthood: a six-year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. *Journal of personality and social psychology*, 54(5), 853.
- Cox, D. F., & Rich, S. U. (1964). Perceived risk and consumer decision-making—the case of telephone shopping. *Journal of marketing research*, 1(4), 32-39.
- Guilford, J. P. (1959). Three faces of intellect. *American psychologist*, 14(8), 469.
- Luca, M. R., & Robu, A. (2016). Personality Traits in Entrepreneurs and Self-Employed. *Bulletin of the Transilvania University of Braşov. Series VII: Social Sciences*, 9(58), 115-138.
- Luchs, M. G., & Mooradian, T. A. (2012). Sex, personality, and sustainable consumer behavior: Elucidating the gender effect. *Journal of Consumer Policy*, 35(1), 127-144.
- Oghazi, P., Karlsson, S., Hellström, D., & Hjort, K. (2018). Online purchase return policy leniency and purchase decision: Mediating role of consumer trust. *Journal of Retailing and Consumer Services*, 41, 190-200.
- Saleem, H., Beaudry, A., & Croteau, A. M. (2011). Antecedents of computer self-efficacy: A study of the role of personality traits and gender. *Computers in Human Behavior*, 27(5), 1922-1936.
- Singh, V., & Dang, A. (2018). Exploring Online Buying Decision Making with reference to Perceived Risks: Does Gender Matters?. *Research Review International Journal of Multidisciplinary*, 10(03), 2455-3085
- Stouthuysen, K., Teunis, I., Reusen, E., & Slabbinck, H. (2018). Initial trust and intentions to buy The effect of vendor-specific guarantees, customer reviews and the role of online shopping experience. *Electronic Commerce Research and Applications*, 27, 23-38.
- Tsao, W. C., & Chang, H. R. (2010). Exploring the impact of personality traits on online shopping behavior. *African Journal of Business Management*, 4(9), 1800-1812.
- Van Schaik, P., Jansen, J., Onibokun, J., Camp, J., & Kusev, P. (2018). Security and privacy in online social networking: Risk perceptions and precautionary behavior. *Computers in Human Behavior*, 78, 283-297.
- Zhang, L., Tan, W., Xu, Y., & Tan, G. (2012). Dimensions of Perceived Risk and Their Influence on Consumers' Purchasing Behavior in the Overall Process of B2C. In *Engineering Education and Management* (pp. 1-10). Springer, Berlin, Heidelberg.
- Zhang, L., Xu, Y., Ye, B., & Wang, Q. (2012). Exploring differences of consumers' perceived factors in shopping online: The effects of shopping experience and gender. In *Advances in Electronic Engineering, Communication and Management Vol. 1* (pp. 639-646). Springer, Berlin, Heidelberg.
- www.investindia.gov.in/sector/retail-e-commerce, Retrieved on 15-01-2020 at 7:55pm
- <https://www.ibef.org/industry/retail-india.aspx>, Retrieved on 28-01-2020