



Convenience Risk, Product Risk, and Perceived Risk Influence on Online Shopping: Moderating Effect of Attitude

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Abstract: *The main purpose of the current study is to determine the influence of convenience risk, product risk, and perceived risk on online shopping with the moderating effect of attitude in Pakistani context. In these days, online shopping is rapidly increasing all over the world and it gives confidence to scholars to determine what factor at the time of shopping online consumers see. The research model of this study is developed on the basis of theoretical background to investigate the influence of convenience risk, product risk, and perceived risk on online shopping with the moderating effect of attitude. The data was collected from students who are mostly master degree holders. The data was collected through questionnaire technique by applying convenient sampling technique, and one hundred questionnaires were distributed to students of Gujranwala and Islamabad. Confirmatory factor analysis (CFA) and structural equation modeling (SEM) techniques have been used for statistical analysis. Findings revealed that convenience risk and perceived risk are significantly and negatively associated with online shopping. Moreover, attitude is significantly and positively associated with online shopping. In contrast, product risk is insignificantly associated with online shopping. Furthermore, findings elucidated that attitude significantly moderates the relationship between convenience risk, product risk, and online shopping. In contrast, findings revealed that attitude does not significantly moderate the relationship between perceived risk and online shopping. Limitations of the current study and direction for future studies are delineated at the end of paper.*

Keywords: *Convenience Risk, Product Risk, Perceived risk Attitude, Online Shopping*

INTRODUCTION

Global trends indicate that businesses are moving towards digitization (Olsen, 2010). According to United Nations' 2004 report, internet penetration in developing countries is still far less inadequate, and limited ten times lower than the average of the developed world. In these days, internet usage is increasing rapidly, and with the use of internet, online shopping becomes faster (Lian & Lin, 2008). According to the survey, Pakistan's population is 194.8 million in which 30 million are internet users, and 31 million are using social media. And with 18% internet penetration rate, it is expected to touch 56 million people by 2019. Online shopping is an emerging area of technology. In online shopping, the main attraction for consumers is its convenience (Chakraborty, 2016). Internet has increased the popularity of online shopping in the whole world in the last decade (Lian & Lin, 2008). Online shopping is the third most popular activity after e-mailing/instant messaging and web browsing (Li & Zhang, 2002). Online shopping in Pakistan is very low; in

other words, in Pakistan online shopping is still at introductory stage compared to developed countries and even developing countries (Yousaf, Altaf, Sarwar, Hassan, & Ali, 2012). But in future, the trend of online shopping is not only changing the nature of businesses but also changing the human life in every aspect (Qin, 2010).

Online shopping trends are at maturity stage in developed countries, and in developing countries, they are increasing especially in Pakistan and India (Ahmed, Su, Rafique, Khan, & Jamil, 2017) but growing faster in India as compared to Pakistan. In Pakistan, the acceptance of online shopping is more challenging. People usually do not have confidence in online shopping. But the young generation shows flexibility towards online shopping especially in ordering food items online (Ahmed et al., 2017). In Pakistan, most people buy clothes and hardware things online (Nielsen, 2010). According to Nielsen's (2010) report, Pakistan is the second lowest country in online shopping. Online shopping in Pakistan is low due to low e-commerce, slow IT growth, unavailability of the internet, high cost of computers, and low computer and internet education (Nielsen, 2008). In Pakistan, almost 77% of population is using smart phones but only 2.07% of population (3.79 million) is broadband users in 2013-2014 (PTA, 2014, Feb 04) and only 3% of Pakistani population is indulging in online shopping due to misconception and mistrust of online shopping, security concerns regarding online transactions, low access to technology, limited infrastructure, and low literacy rates in Pakistan. A study shows that around 82% online shoppers left their transactions without completing due to poor interface of website features (Kearney, 2001b), another study conducted by Creative Good indicates that around 43% of online purchasing failed due to lack of awareness because they cannot find right products, can't complete online transactions, and have fear of their credit cards being hacked (Kearney, 2001a). Current e-commerce market size of Pakistan falls between \$70-150 million which is expected to grow up to \$1 billion by 2020. Globally, the US's current ecommerce market sits around 8-9% of total retail sales, while China's ecommerce sales are 18-20%. Pakistan's ecommerce market is not close to 0.1% of total retail sales. According to Pakwired (2017), credit card penetration's ratio is 0.01% in Pakistan.

In 1990, Tim Berner-Lee formed the first website, and in 1994, a German corporation announced its first virtual store (Rizwan, Umair, Bilal, Akhtar, & Bhatti, 2014). In Pakistan, e-commerce took initiative in 2000 (Khan-Szabist & Arshad-Szabist, 2010). The government took initiatives to convert itself into e-government but failed because in the last decade, Pakistan's government has been unable to improve education especially IT education, and couldn't hold the law strongly, and political condition of the country has also been unstable and unable to provide cyber protection and security for people. Unfortunately 95% of Pakistan's economy is informal that is- it's undocumented, and the government needs to start e-commerce at the grass root level (Aijaz & Butt, 2009).

The aim of this study is to investigate the factors which affect online shopping in Pakistan (Ahmed et al., 2017). Previous studies have examined lots of risks that affect online shopping in Pakistan such as convenience risk, perceived risk, product risk, and attitude of consumers' effect on online shopping. All these risks have negative effects on consumer attitude towards online shopping. High perceived risk will reduce the repurchase online (Lobb, Mazzocchi, & Traill, 2007), the research showed that by reducing this risk online shopping can be enhanced, and perceived risk and convenience risk are needed to be eliminated (Chen, Hsu, & Lin, 2010).

Research Questions:

1. Does convenience risk influence online shopping?
2. Does product risk influence online shopping?
3. Does perceived risk influence online shopping?
4. Does attitude moderate the relationship between (convenience risk, product risk, perceived risk) and online shopping?

Research Objectives:

1. To examine the effect of convenience risk on online shopping.
2. To examine the effect of product risk on online shopping.
3. To examine the effect of perceived risk on online shopping
4. To examine the moderating role of attitude between (convenience risk, product risk, perceived.

Literature Review and Hypothesis Development

Convenience risk and online shopping

Convenience risk is associated with consumers' perception that they will face difficulty in order place, or be unable to cancel one place order, or there will be delays in receiving or returning products (Forsythe, Liu, Shannon, & Gardner, 2006). Potential loss of time when a customer searches about product on website and compares one company's product to another product, is irritating for customers because most people do not know how to operate and how to search right products; furthermore, purchasing products takes long time before using them (Hsin Chang & Wen Chen, 2008). Around 43% of purchasing fails because they can't find the right products or are unable to complete the online transactions (Adnan, 2014) due to lack of awareness and low literacy rate. Unfortunately less than 1% of the whole population is internet literate, most people being unable to understand English (Aijaz & Butt, 2009). Studies show that there is a significant negative impact of convenience risk on online purchasing (Ariff, Sylvester, Zakuan, Ismail, & Ali, 2014; Bashir, Mehboob, & Bhatti, 2015; Chaudary, Rehman, & Nisar, 2014; Clemes, Gan, & Zhang, 2014; Suhan, 2015; Swilley & Goldsmith, 2013). In contrast, some of the studies indicate that Convenience risk has insignificant impact on online shopping (Moshrefjavadi, Dolatabadi, Nourbakhsh, Poursaeedi, & Asadollahi, 2012). There is a need to study the effect of convenience risk on online shopping in future (Chang, 2010).

H₁: Convenience risk has a significantly negative influence on online shopping

H_{1a}: Attitude significantly moderates the relationship between convenience risk and online shopping

Product risk and online shopping

Product risk is also known as performance risk; it means chances of failure to the consumer's requirement. It is a main hurdle in online shopping (Peter & Tarpey Sr, 1975). In online shopping, consumers have limited information about products and do not have tangible products before buying, so risk of buying the products is high in consumers' mind and the products may fail to meet the expected standards (Hong & Cha, 2013; Popli & Mishra, 2015). Around 82% of internet shoppers leave the online shopping without completing their transactions due to poor website features of the websites (Kearney, 2001b). Previous studies show that product risk has a significant negative impact on online purchasing (Ariff et al., 2014; Chakraborty, 2016). In contrast, one of the studies shows that there is an insignificant relationship between product risk and online shopping (Tariq, Bashir, & Shad, 2016). There is a need to study the effect of product risk on online shopping in future studies (Masoud, 2013; Rizwan et al., 2014).

H₂: Product risk has negative influence on online shopping

H_{2b}: Attitude significantly moderates the relationship between product risk and online shopping

Perceived risk and online shopping

Perceived risk has central importance for online buyers (Doolin, Dillons, Thompson, & Corner, 2007). Generally, buyers do not know who the seller is (Finch, 2007). Perceived risk is a negative point and customers doubt about product in their minds (Dunn, Murphy, & Skelly, 1986). Perceived risk was first examined in offline context (Cunningham, 1967; Jacoby & Kaplan, 1972). At early stage, perceived risk consists of five dimensions including: psychological, physical, social performance and financial risk. After some time, one more dimension was added as time risk. In online shopping, three more dimensions of perceived risk were added including: security risk, privacy risk and source risk (Peter, 1975). Some studies indicate that there is a significant negative effect of perceived risk on online shopping (Adnan, 2014;

Chaturvedi, Gupta, & Hada, 2016; Iqbal & Hunjra, 2012; Moshrefjavadi et al., 2012; Nazir, Tayyab, Sajid, Rashid, & Javed, 2012; Sulaiman, Mohezar, & Rasheed, 2007; ur Rehman, ur Rehman, Ashfaq, & Ansari, 2011; Zakuan & Mat Saman, 2009). In contrast, previous studies show insignificant impact of perceived risk on online shopping (AadWeening, 2012; Chaudary et al., 2014; Muda, Mohd, & Hassan, 2016).

H₃: Perceived risk has a negative influence on online shopping

H_{3c}: Attitude significantly moderates the relationship between perceived risk and online shopping

Attitude and online shopping

Studies show that attitude has significant impact on online shopping (Chih & Tang, 2005; Hirst & Ashwin, 2008; Moshrefjavadi et al., 2012; Teo & Liu, 2007). Previous studies have examined lots of risks that affect online shopping in Pakistan such as convenience risk, perceived risk, product risk (Ariff et al. 2014, 2010; Bashir et al., 2015; Clemes et al., 2014; Moshrefjavadi et al., 2012; Tariq et al., 2016; Masoud, 2013; Iqbal and Hunjra, 2012). All these risks have negative effects on consumers' attitude towards online shopping. High perceived risk will reduce the repurchase online (Lobb, Mazzocchi, & Traill, 2007), the research showed that by reducing this risk online shopping can be enhanced, and perceived risk and convenience risk are needed to be eliminated (Chen, Hsu, & Lin, 2010).

H₄: Attitude has significant and positive influence on online shopping.

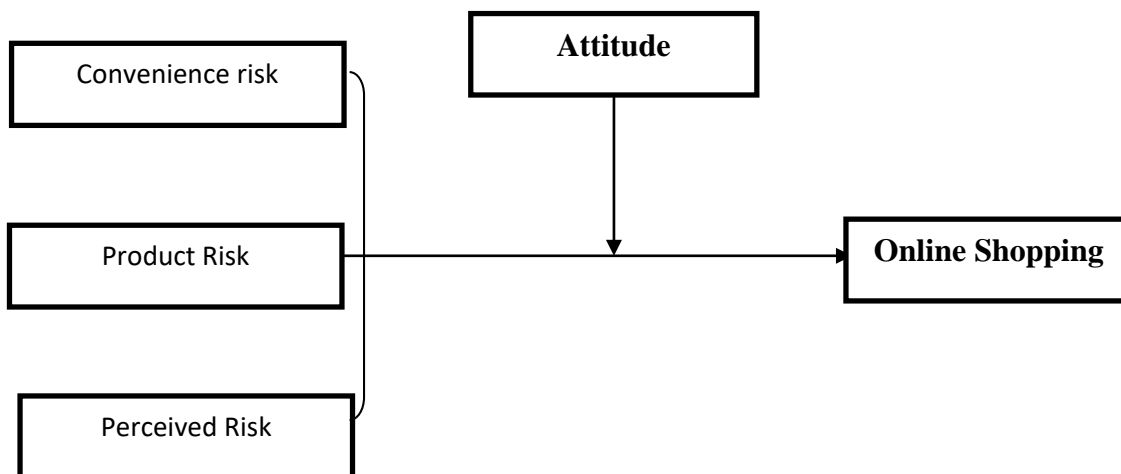


Figure 1. Hypothetical model of current study

Research Methodology

The relationship between convenience risk, product risk, perceived risk, and online shopping while moderated by attitude was examined in the current study. The current study is descriptive and quantitative as well as deductive in nature. In this study, convenient sampling was used to collect data through a questionnaire. To conduct a good research, sample size must be in the range of 30 participants (Roscoe, 1975). In the current study, data was collected in Gujranwala and Islamabad, and the respondents were students. One hundred (100) questionnaires were distributed and the entire questionnaires were filled by the students and returned back. Instruments were adopted from prior studies. Convenience risk consists of six items and was adopted from Moshrefjavadi et al. (2012), product risk consists of three items and was adopted from Moshrefjavadi et al. (2012), perceived risk includes financial risk and non-delivery risk and consists of seven (7) items; financial risk consists of five items and was adopted from Masoud (2013), and non-delivery risk includes two items and was adopted from Moshrefjavadi et al., (2012), attitude consists of three (3) items and was adopted from George (2004), and online shopping consists of eight (8) items and was adopted from Masoud (2013).

Questionnaire items then were answered by general public on a 5-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Research Analysis, Results and Discussion

Demographics

In the current study, demographics profile shows that most of the respondents in the sample were female; 60 (60%) female and remaining 40 (40 %) male. Regarding the age group, 58% of the respondents were in the age of up to 25 years, 29% in the age of 26-40 years and the remaining 13% of them were in the age group of more than 40 years. Furthermore, most of the respondents had master degrees that includes 57 respondents (57%), while 33 respondents (33%) were bachelor students, 7 of them had PhD degree (7%), and the remaining 3 (3%) respondents were in others of the sample.

Reliability Test

Cronbach’s alpha was considered in examining the reliability of the instruments. Cronbach’s alpha value must be 0.70 or more than 0.70 (Nunnally, 1978). Table 1 shows Cronbach’s alpha of all the variables that are used in the current study.

Table 1. Reliability Results

| Construct | Items | Cronbach’s Alpha |
|------------------|-------|------------------|
| Convenience Risk | 06 | 0.864 |
| Product Risk | 03 | 0.931 |
| Perceived Risk | 07 | 0.912 |
| Attitude | 03 | 0.895 |
| Online Shopping | 08 | 0.934 |

Table 1 shows that all the constructs’ Cronbach’s alphas are higher than 0.7, and 0.70 is the acceptable value that is suggested by Nunnally (1978). Hence, all the results related to the instruments are reliable and available to proceed for further analysis.

Normality Test

For examining normality test, skewness and kurtosis are used (Meyers, Gamst, & Guarino, 2016). The range of skewness is -1.00 to +1.00 and range of kurtosis is +3.00 (Meyers et al., 2016). In the current study, findings revealed that skewness and kurtosis’ values are within the range. Hence, in the current study, the data fulfills the requirement of normality test and it is available for further analysis.

Confirmatory Factor Analysis (CFA)

To carry out CFA, this study calculates factor loading to estimate the measurement model. There are three steps that should be followed to check the reliability (Fornell & Larcker, 1981). Reliability steps are factor loading variable values of comparative fit index (CFI) being higher than 0.7, average variance extract (AVE) value being more than 0.5, and composite reliability (CR) value being more than 0.80. In this study, factor loading range of product risk is .815 to .853. Moreover, the range of loading for convenience risk is .772 to .874. Furthermore, the range of loading of perceived risk is .793 to .873. Additionally, the range of loading of attitude is .783 to .838. Finally, the range of loading of online shopping is 0.814 to 0.989. Furthermore, in the current study, average variance extract (AVE) and composite reliability (CR) were used to measure convergent validity of constructs. AVEs of convenience risk, product risk, perceived risk, attitude, and online shopping are 0.665, 0.698, 0.683, 0.644, and 0.576 respectively. Hence, AVE values of all constructs are more than 0.50. Composite reliability of convenience risk, product risk, perceived risk, attitude, and online

shopping is 0.923, 0.874, 0.938, 0.844, and 0.915 respectively. All the values of composite reliability (CR) are higher than 0.80.

Descriptive & Correlation Analysis

Table 2 elaborates the descriptive and correlation analysis. Results revealed that some of the variables significantly were correlated with each other. This correlation matrix identifies that consumers’ purchase intention is highly significantly correlated with convenience (r=.942, p<.05).

Table 2. Descriptive & correlations analysis

| Variable | Mean | SD | CR | PR | PRR | ATD | OS |
|----------|------|------|---------|---------|---------|--------|----|
| CR | 4.20 | .456 | 1 | | | | |
| PR | 4.22 | .651 | -.394** | 1 | | | |
| PRR | 3.40 | .697 | -.497** | -.328** | 1 | | |
| ATD | 4.38 | .558 | -.605** | -.452** | -.595** | 1 | |
| OS | 4.36 | .499 | -.442** | -.280** | -.402** | .927** | 1 |

Note: **P<.01; SD= standard deviation; CR= convenience risk; PR= product risk; PRR= perceived risk; ATD= attitude; OS= online shopping

Hypothesis Testing convenience risk, product risk, perceived risk, attitude, and online shopping Structure Equation Modeling (Direct Effects)

Table 3. Standardized estimates of direct effects

| Indication of relationship of variables | Standardized Estimates | S.E | P-value | Results |
|---|------------------------|------|---------|---------------|
| OS < ---- CR | -.238 | .051 | .039 | Significant |
| OS < ---- PR | -.155 | .034 | .065 | Insignificant |
| OS < ---- PRR | -.112 | .065 | .009 | Significant |
| OS < ---- ATD | .240 | .068 | .000 | Significant |

Table 3 elaborate that convenience risk is significantly and negatively related to online shopping (β= -.238; p<.05) and H₁ is supported. Moreover, findings revealed that product risk has the insignificant relationship with online shopping (β= -.155; p>.05) and our hypothesis H₂ is not supported. Additionally, findings elucidated that perceived risk is also significantly negatively related to online shopping (β= .112; p<.05) and H₃ is supported. Moreover, findings revealed that attitude is significantly and positively related to online shopping (β= .240; p<.05) and H₄ is supported.

Testing moderator hypothesis and results

In the above section (4.6), simple model tests with direct effect of convenience risk, product risk, perceived risk, and attitude on online shopping were carried out. In this section, moderating effect of attitude between (convenience risk, product risk, and perceived risk) and online shopping was considered. Measuring moderating effect of a construct is an interaction term (Holmbeck, 1997). For testing moderator hypothesis, this study develops a separate model for moderating construct to test the effect of standardized moderation score of the construct used in the current study. Smart PLS 3.0 was used to test moderation hypothesis, and during this process online shopping was expressed on (convenience risk, product risk, and perceived risk), moderating variable attitude and interaction term. Moreover, this interaction term was created by

multiplying the scores obtained from moderating and independent constructs. The standard values of these constructs were used, which was suggested by Aiken, West, and Reno (1991), to stay away from the multicollinearity problem. By doing this, the significant correlation between interaction term and these constructs did not make any problems to test the moderator (Bahar Ozdogan & Hakan Altintas, 2010).

Moderator: Attitude

In this study moderating effect of attitude was tested in the relationship between convenience risk, product risk, perceived risk, and online shopping. The following table 4 shows the findings of the moderation effect test. Table 4 shows the hypothesis testing results of moderation effect of attitude on the relationship between convenience risk, product risk, perceived risk, and online shopping. In PLS 3.0 SEM analysis, moderating effect exists if interaction path is significant that means t-value of interaction effect is at least 1.96 or p-value is less than 0.05 (Hair, Black, Babin, Anderson, & Tatham, 2010).

To test moderation effect of attitude, all the constructs including independent variable (standardized convenience risk), moderating variable (standardized attitude), and interaction term (convenience risk standardized scores x attitude standardized scores) were regressed on online shopping. To validate the moderation hypothesis, all these effects should be significant. Table 4 shows the analysis that there is a significant and negative relationship between convenience risk and online shopping with ($\beta = -0.193$; $p < 0.05$). The relationship between attitude and online shopping is also significant with ($\beta = 0.230$; $p < 0.05$). While the interaction term is also significant with ($\beta = 0.169$; $p < 0.05$) and our hypothesis H_{1a} was accepted. Similarly, to test the moderating effect of attitude, all the constructs including independent variable (standardized product risk), moderating variable (standardized attitude) and interaction term (product risk standardized scores x attitude standardized scores) were regressed on online shopping. To validate the moderation hypothesis, all these effects should be significant. Table 4 shows the analysis that there is a significant and negative relationship between product risk and online shopping with ($\beta = -0.136$; $p < 0.05$). The relationship between attitude and online shopping is also significant with ($\beta = 0.323$; $p < 0.05$). While the interaction term is also significant with ($\beta = 0.212$; $p < 0.05$) and our hypothesis H_{2b} was accepted.

Moreover, to test moderation effect of attitude, all the constructs including independent variable (standardized perceived risk) moderating variable (standardized attitude) and interaction term (perceived risk standardized scores x attitude standardized scores) were regressed on online shopping. To validate the moderation hypothesis, all these effects should be significant. Table 4 shows the analysis that there is a significant and negative relationship between perceived risk and online shopping with ($\beta = -0.445$; $p < 0.05$). The relationship between attitude and online shopping is also significant with ($\beta = 0.139$; $p < 0.05$). While the interaction term is insignificant with ($\beta = -0.071$; $p > 0.05$) and our hypothesis H_3 was not accepted.

Table 4. Regression Results (Moderator: Attitude)

| Hypothesis | Model Variables | Estimate | S.E. | C.R. | P-value | Results |
|------------|------------------------------|----------|-------|-------|---------|---------------|
| H_{1a} | OS ← CR | -0.193 | 0.043 | -3.82 | 0.001 | Supported |
| | OS ← ATD | 0.230 | 0.052 | 4.34 | 0.000 | |
| | OS ← CR*ATD (Interaction) | 0.169 | 0.054 | -3.32 | 0.001 | |
| H_{2b} | OS ← PR | -0.136 | 0.049 | -2.69 | 0.007 | Supported |
| | OS ← ATD | 0.323 | 0.055 | 6.39 | 0.000 | |
| | OS ← PR*ATD (Interaction) | 0.212 | 0.051 | -4.21 | 0.000 | |
| H_{3c} | OS ← PPR | -0.445 | 0.047 | 8.279 | 0.000 | Insignificant |
| | OS ← ATD | 0.139 | 0.050 | 2.408 | 0.019 | |

| | | | | | | |
|--|-------------------------------|--------|-------|-------|-------|--|
| | OS ← PPR*ATD (Interaction) | -0.071 | 0.051 | 1.173 | 0.241 | |
|--|-------------------------------|--------|-------|-------|-------|--|

Discussion

The objective of this study was to examine the influence of convenience risk, product risk, and perceived risk on online shopping. This study was quantitative and descriptive in nature. Findings revealed that without moderator’s effect, convenience risk significantly and negatively influenced on online shopping and our hypothesis H₁ was supported. Our findings are consistent with the study of Ariff et al.(2014), Chaudary et al.(2014), Clemes et al.(2014), and Suhan (2015). Moreover, attitude significantly moderates the relationship between convenience risk and online shopping. Hence, our hypothesis H_{1a} was supported. Furthermore, findings revealed that without moderator’s effect, product risk insignificantly influenced online shopping and our hypothesis H₂ was not supported. Our findings were consistent with the work of Tariq et al. (2016). Moreover, attitude significantly moderates the relationship between product risk and online shopping. Hence, our hypothesis H_{2b} was supported. Meanwhile, findings elucidated that without moderator’s effect, perceived risk significantly influenced online shopping and our hypothesis H₃ was supported. The results are consistent with the study of Adnan (2014), Chaturvedi et al. (2016), Moshrefjavadi et al. (2012), and Rehman et al. (2011). Moreover, attitude does not significantly moderate the relationship between perceived risk and online shopping. Hence, our hypothesis H_{3c} was not supported. Additionally, attitude has a significant and positive influence on online shopping and supported our hypothesis H₄. The results are consistent with the results of Iqbal and Hunjra (2012). This study used the theory of planned behavior (TPB). Theory of TPB specifies that behavior of consumer separately is examined in term of purchasing behavior as well as information behavior, and these two behaviors were influenced by consumer’s attitude, perceived risk, trust, social influence, technology, perceived usefulness, personal online skills, website characteristics, and perceived ease of use (Ajzen, 1991).

Conclusion

In this modern era of competition, consumers are considered the king in the market. Organizations work hard to attract consumers in offline as well as online stores. The current study contributes to the general body of knowledge about online shopping in Pakistan. In Pakistan, there are very limited researches on online shopping, and literature from other countries is used to build theoretical base for their papers. The current study overcomes this problem and uses some factors affecting online shopping in Pakistan. Findings of the current study, will help e-marketers and business people to better understand how they enhance their sales through online shopping. The main objective of the current study is to test hypotheses and provide evidence on the relationship between financial risk, privacy risk, convenience, trust, and consumer’s purchase intention and the outcome of this relation on online shopping. Findings revealed that privacy risk significantly and negatively is associated with online shopping, and convenience and trust significantly and positively is associated with online shopping. Financial risk and trust have insignificant impact on online shopping.

Future Directions

In this study, there are some limitations that need to be considered in future studies. Firstly, the research was conducted only in Gujranwala and Islamabad and does not allow for generalization of the results to cities other than these two cities. Secondly, our finding is on the basis of two hundred seventy-five respondents, and in future researchers can increase the sample size, and the results may change. Thirdly, in our study we focus on few factors and researchers can use other predictors in future to study online shopping. Fourthly, due to time constraint we could not focus on specific sectors, and researchers can conduct study on specific sectors like clothing and fashion industry. Finally, in the current study online shopping was considered overall and in future researchers can study online shopping intention, online shopping adoption, and online shopping behavior with the current study’s factors as well as with other factors e.g. financial risk, privacy risk, social risk, quality risk, security risk, hacking information, and technological risk. Moreover, future studies on online shopping (behavior, intention, and adoption) can use trust, consumers’ purchase intention,

government's role, and culture as a mediating/moderating role. Furthermore, future studies should be conducted in other developing and developed countries.

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