

PERCEIVED RISK AND ONLINE PURCHASE INTENTION: THE INTERACTION EFFECT OF TRUST

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Abstract. *This study is aimed to investigate the relationship between perceived risk and online purchase intention, as well as the moderating role*

of trust on the mentioned link among the university students in Pakistan. The existing literature has mainly focused on the effects of perceived risk on online purchase intention in the developed countries and oversighted the potential role of trust affecting the relationship between perceived risk and online purchase intention. This research study, thus, bridges these gaps in the literature. Purposive sampling was utilized and data was collected from 200 enrolled students through questionnaire. Results of the regression analysis demonstrated that perceived risk in online shopping is adversely related to purchase intention. Moreover, results of hierarchal regression analysis indicated that trust positively moderates the link between perceived risk and purchase intention, indicating that trust dampens the mentioned link. This study provides significant implications to online sellers to understand the underlying role of trust in reducing the perceived risk of consumers and encouraging them to engage in online shopping. This study also suggests the policy makers to devise clear, transparent and uniform policies regarding product return by consumers, product damages and exchange etc so that online businesses flourish and consumer may get benefit of ease, convenience, economy and satisfaction in the online shopping. Limitations and future research directions are provided.

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1. Introduction

Online shopping can be defined as the practice where by products are sold and purchased through internet (Hamed & El-Deeb, 2020; Sahney, Ghosh, & Shrivastava, 2013). Technology evolution has provided individuals with the ease to purchase products online without visiting physical store, thus, helps save their

time and cost by purchasing variety of products such as groceries, clothes, foot wears, home appliances etc (Whittaker, Edwards, Cross, & Button, 2022). The number of users engaged in online shopping is growing in the emerging markets and it is expected that by 2022 the number of new consumers using internet will reach to 3 billion besides the existing users (ET Beauru, 2018). Online shopping has benefitted both the developing and developed markets by enabling them to reach a large number of customers and engaging in online business activities (Al-Adwan et al., 2022). Online shopping is growing across the globe and gradually becoming an important component in retailing (Yahia, Al-Neama, & Kerbache, 2018).

However, it is acknowledged that the increasing use of internet for online shopping is associated with the internet related crimes (Yoshida, 2013; Yar & Steinmetz, 2022). The possibilities of internet crimes in many forms like credit card hacking, fraud etc. inhabit customers to engage in online shopping (Salim et al., 2023). The risk which is immanent in the context of online shopping restraining the consumer to shop may be due to the fact that they don't have access to directly check all the features, qualities and attributes of the products (Aghekyan- Simonian et al., 2012). Chances are higher that consumer may encounter fraud from the e-retailers (Holtfreter, Reising, & Pratt, 2008) if they order the products online (Aghekyan-Simonian et al., 2012). In this situation, when they think of higher risk involved, they are hesitant to engage in it (Michaelidou & Dibb, 2009).

The existing studies have outlined the influence of perceived risk on online purchase intention; however, majority of these studies have concentrated on one sided perspective that perceived risk in the context of online environment is a barrier to online shopping (Sutinen et al., 2021) and have overlooked the potential factors that can reduce uncertainty of the customers and encourage them to engage in online shopping (Hamed & El-Deeb, 2020; Sharma, Singh, & Pratt, 2022). Review of the extant literature show that the existing studies (Katta & Patro, 2017; Wu et al. 2018) considered the trust factor as one of significant enablers engaging the consumer in online shopping. Building on the premise that engaging in online shopping is perceived to be riskier than traditional shopping (García-Salirrosas et al. 2022; Yang et al., 2019) due to the unforeseen negative consequences for the shoppers, this study examines the impact of perceived risk on online purchasing intention of university students with respect of domestic fashion products in the context of a developing economy, Pakistan. Moreover, the current study takes customer trust as a composite construct with three facets used in the previous studies namely, showing the

product information (Chiu et al., 2014; Hamed & El-Deeb, 2020) cash on delivery (Sahney et al., 2013; Tandon, Kiran, & Sah, 2018) and lenient return policy (Al-Adwan et al. 2022; Oghazi, Karlsson, Hellström, & Hjort, 2018) to examine whether trust mitigate the negative link between perceived risk in online shopping and purchase intention.

2 Literature Review

2.1 Online purchase intention

The intention a consumer holds to engage and shop in online shopping platform is referred to online purchase intention (Chiu, Lin, & Tang, 2005). Prior research has highlighted that intention is the prime predictor of the actual behaviour (Wee et al. 2014). According to Delafrooz, Paim, and Khatibi (2011), purchase intention is largely influenced by factors such as convenience, price, customer service, trust, security, and a diverse range of product options. Escobar-Rodríguez and Bonsón-Fernández (2017) highlighted that the primary elements influencing online fashion include trust, perceived value and fashion innovativeness. Their study concluded that timesaving is the primary factor influencing perceived value, while perceived security is the primary factor affecting trust. Chen, Ding, Meng, Li, and Zhang (2023) finds that buying intentions of the consumers are influenced by several factors related to the information system, such as the website quality, the web pages design and the way in which detail of the product are showcased. Hence, it is imperative for online sellers to minimize the uncertainty among consumers regarding their trustworthiness and enhance the chances of successful transactions. Furthermore, online sellers must ensure that the products or services are delivered as per the promises made and ready to rectify the transaction in case of any deficiencies. They should also have a clearly stated privacy policy or statement on their website (Poan, Merizka, & Komalasari, 2021).

2.2 Perceived risk and online purchase intention

The risk of losing something a consumer considers before engaging in online purchasing is referred to perceived risk (Forsythe & Shi, 2003). When it comes to clothing purchases, consumers are exposed to many risks, such as buying low-quality items, discovering cheaper alternatives elsewhere; picking clothes that don't match their existing outfits, or purchasing items they might never wear (Michaelidou & Dibb, 2009).

The existing studies have highlighted that perceived risk influences the online purchase intention. For example, Samadi and Yaghoob-Nejadi (2009) reported that greater perceived risk is associated with lesser degree of willingness to make future purchases through the internet. This reluctance is more pronounced among consumers who perceive a greater degree of risk while shopping online (Crespo & Rodríguez, 2008). Masoud (2013) found that in emerging markets, perceived delivery risk, financial and product risk in online shopping have significant and negative influence on buying behavior. Mortimer et al., (2016) found the possibility of fraud is a great concern even for frequent online shoppers. Other studies (eg. Chiu et al., 2018; Yang et al., 2019) have also postulated consumers' anticipated risk as a barrier to online shopping.

Liao, Hu, Chung, and Huang (2021) found that there is a negative relationship between perceived risk and online purchase intention in the electronic commerce environment of Taiwan. Moreover, these authors suggested that perceived risk remains a concern for online consumers and can be detrimental to their purchase intentions. To address this, online operators should take benefits of online involvement and electronic word-of-mouth to transform perceived risks into opportunities for electronic commerce. A more recent study conducted by Mahbob, Hasim, and Ishak (2023) concluded that perceived risk (product risks, financial risks and non-delivery risks) in online shopping is negatively related to purchase intention in Malaysia. Therefore, it is hypothesized;

H1: Perceived risk has a significant and negative influence on online purchase intention.

2.3 Moderating role of customer trust

Trust in e-commerce is often defined and measured by researchers as a set of perceptions and attitudes towards an e-vendor's competence, honesty, and goodwill (He, 2011). In the context of online clothing shopping, the importance of consumer trust is increase in comparison to traditional shopping due to the intangible and impersonal nature of e-commerce, which increases consumer uncertainty (Dewi, Mohaidin, & Murshid, 2020). Yang et al., (2023) highlighted that customers are more inclined to make online purchases when they start trusting the service provider. Trust is a significant element factor in the developing countries to motivate and make people decide to do online shopping (Rahman, Khan, & Iqbal, 2018).

Trust may have multi facets engaging the consumer in online shopping. For instance, Rahman et al. (2018) suggested offering easy mode of payment leads to increase the trust of consumers with respect to online seller. Al-Adwan et al. (2022) noted that in high-uncertainty avoidance societies, e-retailers utilize cash on delivery, return policy leniency and social commerce constructs as signals to enhance customers' perceived trust and minimize their perceived purchase uncertainty. Hamed and El-Deeb (2020) suggested offering cash on delivery option as signal from online sellers to engage consumers in online shopping in those economies where some consumers do not use credit cards to engage. Offering this option will enable online stores to reach larger target market within emerging nations. Sadiq, Dogra, Adil and Bharti (2022) conducted their study in India and found that with increase in the level of consumers 'trust, the intensity of perceived risk is decreased in online shopping. Munikrishnan, Huang, Mamun, and Hayat (2023) conducted their study in Malaysia and examined the effects of perceived risk in online environment on purchase intention. Their findings showed that trust in online sellers was the significant factor affecting the intention to purchase food online from takeaways. Thus, we hypothesize the following;

H2: Trust moderates the link between perceived risk and online purchase intention.

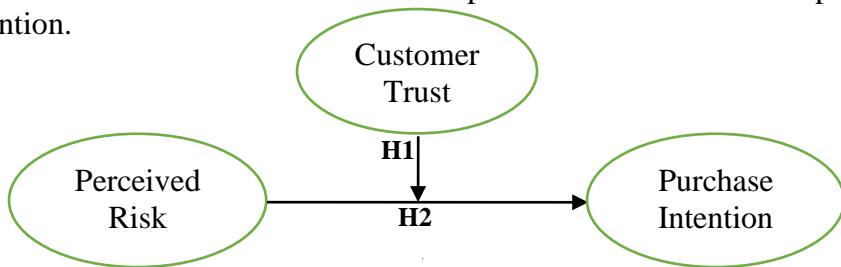


Figure 1: Conceptual Framework

3. Research Methods

3.1 Data Collection and Sampling

The undergraduate students, currently enrolled in the University of Malakand, Khyber Pakhtunkhwa, Pakistan constituted the population of the study. Purposive sampling technique was employed to select those students, as sample of the study, who intended to shop online, however, the risks, they perceived preventing them to engage in online shopping. Altogether, 200 students from different departments including Commerce and

Management Sciences, Economics, Sociology, English, Botany, Software Engineering were included as sample of the present study.

In light of the aims and objectives of the study, a self-administered questionnaire was developed. The questionnaire was distributed among the respondents after getting approval from the supervisor. Distribution of the questionnaires was self-administered in order to speed up the data collection process. After the questionnaires were distributed among the respondents, they were given specific time and the questionnaires were then collected once filled in. A total of 230 (Two hundred and thirty) questionnaires were collected from the respondents, out of which 200 were found correct and thus found sufficient for further analysis. Demographic profile of respondents included gender, age and program the respondents enrolled in. The final sample consisted of 57.5% males and 42.5% females. Out of the sample, 37.5% were the respondents enrolled in undergraduate or bachelor degree program, and the remaining 55% were enrolled in masters/ MS or MPhil degree program and 7.5% respondents were in PhD.

3.1 Measurement tools

The previously validated scales were used to measure constructs of this study. To measure the perceived risk construct, five items scale was adapted from Liao et al., (2021). The sample item includes “Online shopping is riskier than in-store purchases”. To measure the online purchase intention, three items scale from Thananuraksakul (2007) was adapted. Sample item of the scale includes “It is likely that I will shop online in the near future”. This study takes three dimensions of customer trust as cash on delivery, lenient return policy and product information. Four items scale was adapted from Hamed and El-Deeb (2020) to measure cash on delivery. For measuring the lenient return policy dimension of customer trust, this study adapted six items scale from Oghazi et al., (2018). Product information dimension was assessed with four items scale adapted from Hamed and El-Deeb (2020). All the constructs were assessed on 5-point liker scale.

3.2 Validity and reliability

Principal Component Analysis (PCA) was employed with the purpose of identify and generate orthogonal factors. PCA resulted in identifying the single largest component explaining 54% of the variation in perceived risk. Additionally, we conducted further analysis on the constructs of online purchase intention and customer trust, finding that the single largest component explained 55% and 62% of the variation in these variables,

respectively. We assessed the reliability of the constructs using Cronbach's alpha. The obtained alpha values for perceived risk, customer trust, and online purchase intention constructs were 0.637, 0.864, and 0.675, respectively. These values were compared against the recommended threshold value of 0.6, as suggested by Hair et al., (2003).

3.3 Data analysis

Descriptive statistics, correlation and regression were incorporated in analyzing the data. Descriptive statistics helped in understanding the data better by summarizing it. We also used correlation analysis to see if there were any connections between the variables in the study. Simple regression analysis was performed to test the hypothesis about the direct relationship between perceived risk and online purchase intention. Additionally, hierarchical regression analysis using Baron and Kenny (1986) was performed to examine the hypothesis about how the moderating variable (trust) affects the relationship between perceived risk and online purchase intention.

4 Results of the Study

4.1 Descriptive statistics and correlation analysis

Table 1 depicts descriptive statistics and Pearson correlation. The mean value of perceived risk (mean= 3.3520) indicated that the respondents acknowledge the role of perceived risk in preventing them to engage in online shopping. The mean value of customer trust (mean= 3.9633) indicated the potential role of customer trust, the respondents believe, in mitigating the strength of relationship between perceived risk and online purchase intention. The results of correlation analysis indicated that perceived risk is negatively related to online purchase intention ($r = -.781, p < 0.01$). Moreover, customer trust is positively related to online purchase intention ($r = .739, p < 0.01$).

Table 1: *Descriptive Statistics and Correlation analysis of Constructs*

No.	Variables	Mean	SD	1	2	3
1	Perceived Risk	3.3520	0.6312	1		
2	Customer Trust	3.0282	0.6505	.217**	1	
3	Online Purchase Intention	3.9633	0.6365	-.781**	.739**	1

Note: $P < 0.01$ level (2 tailed).

4.2 Simple linear regression

Table 2 shows results of the regression analysis relating to the effect of perceived risk in online shopping on purchase intention. The R value ($r = -0.781$; 55.9%) indicated that there is a negative relationship between perceived risk and online purchase intention. Furthermore, R Square value of .611 indicated that 61.1% variance in purchase intention is caused by perceived risk. The results of F statistic are 310.511 ($P < .05$) indicated fitness of the study's model. Beta coefficient (β) is significant resulted in -0.767 ($p < .05$) demonstrated the significant and negative influence of perceived risk in online shopping on purchase intention. The Beta coefficient value explains that 52.1% change can be observed in purchase intention as a result of one unit change in the perceived risk.

Table 2 *Effect of Perceived Risk on Online Purchase Intention*

	Beta	t	Sig.
Constant	-0.457	3.072	0.000
Perceived Risk	-0.767	17.621	0.000
R	-0.781		
Adjusted R Square	0.609		
R Square	0.611		
F	310.511		0.000
Standard Error of the Estimate	0.406		

4.3 Moderation test

Three steps moderation technique of Baron and Kenny (1986) was used to check the moderating effect of trust on the relationship between perceived risk in online shopping on purchase intention. The results on moderation test are reported in Table 3.

Purchase intention was regressed on perceived risk (Step 1) wherein, the results demonstrated that perceived risk has significant and negative effect on purchase intention. Then, purchase intention was regressed on trust (Step 2) and the results indicated that trust has significant and negative effect on purchase intention

Table 3 Moderation Testing

Step1			
	Beta	T	Sig.
Intercept	-.457	3.072	0.000
Perceived Risk	-.767	17.621	0.000
Adj. R ²	.609		
R ²	.611		
F	310.511		
Step 2			
	Beta	T	Sig.
Intercept	.037	.187	0.000
trust (Moderator)	.739	15.414	0.000
Adj. R ²	.543		
R ²	.545		
F	237.583		
Step 3			
	Beta	T	Sig.
Intercept	1.084	12.039	0.000
Perceived Risk*trust	.144	22.405	0.000
Adj. R ²	.717		
R ²	.718		
F	504.004		

The product of perceived risk and trust was taken as PR*OT (Step 3) and its influence was checked on purchase intention. F-Statistics resulted in the value of 504.004 ($p < 0.01$) and indicated fitness of the model. The Value of R^2 (R square=.718) was observed to be 17.3 % (R square .718- R square .545= .173) showing that variation in dependent variable can be explained when trust is taken as a moderator. The value of beta coefficient is significant ($\beta = .144$, $p < .01$). Significance of beta coefficient of the product confirms that customer trust significantly and positively moderates the relationship between perceived risk and purchase intention.

5 Discussion and Conclusion

Results pertaining to the direct link between perceived risk and online purchase intention indicate that perceived risk has significant and negative influence on online purchase intention. The results of the current study are

in line with the findings of the existing studies. (Chiu et al., 2018; Crespo & Rodríguez, 2008; Hu et al., 2021; Mehboob et al., 2023; Yaghoob-Nejadi, 2009; Yang et al., 2019) highlighting that perceived risk is negatively related to online purchase intention. This may be due the fact that consumers cannot physically examine a product before making an online purchase decision (Aghekyan- Simonian et al., 2012), thus, consumers often hesitate to purchase online confidently (Sharma et al., 2022). Other studies also show that consumers perceive engaging in online shopping riskier than the traditional face to face shopping (García-Salirrosas et al., 2022; Yang et al., 2019). Thus, the result of the current study supports the first hypothesis of the study (*H1*) that perceived risk has significant and negative influence on online purchase intentions.

The results pertaining to the moderating effect indicate that trust reduces the negative effects of perceived risk on online purchase intention. In other words, trust positively moderates the relationship between perceived risk and online purchase intention. The results of the current study also coincide with the finding of Rahman et al., (2018) who states that trust encourages consumers to engage in online purchasing in developing countries. García-Salirrosas et al., (2022) also suggested the online clothing stores to differentiate themselves by highlighting their distinct characteristics and making a favorable first impression to draw in customers in order to secure customer loyalty and enhance the likelihood of future purchases. Al-Adwan et al. (2022) also noted that cash on delivery, return policy leniency and social commerce constructs as signals to enhance customers' perceived trust and minimize their perceived purchase uncertainty. Hamed and El-Deeb (2020) suggested offering cash on delivery option as signal from online sellers to engage consumers in online shopping in those economies where some consumers do not use credit cards to engage. Thus, second hypothesis (*H2*) of the study is supported stating that trust moderates the link between perceived risk and online purchase intention.

6. Implications of the Study

This study gives insights to online store managers to design or revisit their policies regarding their offerings to encourage online shoppers for improved sales. This study educates the online store/ sellers that making the trust factor more visible may dampen the level of consumers 'perceived risk and encourage them to purchase with ease and confidence. It suggests that online stores should make the various facets of trust such as cash on delivery, lenient return policy and display product information in their

online transactions so that consumers are involved and motivated to purchase repeatedly.

This study provides insights to manager and practitioners of online fashion stores that perceived risk will be always prevalent as a barrier in the context of online shopping and suggest that they should constantly keep in touch with consumers through various channels including social networking sites, know their concerns and queries and come up with more risk mitigating strategies to increase the online shoppers. This will enable not only them to retain their existing consumers but also increase their customer base by attracting new consumers and extend their consumer base.

This study also suggests to the policy makers to devise clear, transparent and uniform policies regarding product return by consumers, product damages and exchange etc so that online businesses flourish and consumer may get benefit of ease, convenience, economy and satisfaction in online shopping.

7. Limitations and Avenues for Future Research

This study is not free from the limitations. Future research may leverage on utilizing these limitations. Firstly, the current study investigated the effects of perceived risk on online purchase intention among the students of a single higher education institution namely University of Malakand which restricts the generalization of findings of the current study. Future studies may include other public and private universities located in Malakand Division for obtaining more in-depth insights on the subject matter.

This study took trust as three facets construct and includes lenient return policy, cash on delivery and displaying detailed product information. It would be of great value if future studies include some other facets of customer trust as e-retailer reputation, on time delivery and website design so that the perception of the customers may be captured regarding these constructs. This study employed quantitative research methods only. Future research is advised to use qualitative research designs for data collection and analysis in order to be able to gain further in-depth insight on the relationship between the variables of the study.

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