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Effect of Perceived Risk on Behavioral Loyalty in Online Shopping: Mediating Effect of Trust

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ABSTRACT

There is a growing concern about trust in online shopping behavior. This study investigated the effect of perceived risk on behavioral loyalty and the mediating role of trust in online shopping. The study consists of four hypotheses based on literature. The population of the study includes business students from all universities/institutes in the Peshawar region who have already experienced online shopping. Students were selected as a unit of analysis because different scholars considered them active and the main users of online shopping. To test hypothesized relationships, an online survey was conducted by collecting data from 351 university students consisting of three prime institutes/universities in the Peshawar district, both public and semi-government sectors, i.e. the University of Agriculture, the Institute of Management Studies (IMS), the University of Peshawar and the Institute of Management Sciences, Hayatabad, Peshawar. Out of 351 questionnaires, 320 were found to be correct and complete in every aspect. The compiled data were statistically analyzed by SPSS v. 20 using the Baron and Kenny methods. The findings show that perceived risk has a significant impact on consumer behavioral loyalty and trust. Besides, consumer confidence in online shopping significantly mediates the relationship between perceived risk and behavioral loyalty. This study also suggests several managerial implications, such as that vendors should align their e-business strategies to better cater to target market needs and overcome consumer concerns about risk and trust in online shopping.

Keywords: Perceived Risk, Trust, Behavioral Loyalty.

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1. INTRODUCTION

1.1. Study Background

Since the last few decades, the Internet has become an important source of communication for both large companies and the government, and it is being used as a communication tool. According to the Tech Target survey (2007-2012), the fastest growth of the Internet provided an opportunity for organizations to expand internationally through the use of the Internet as a shopping channel. Internet shopping is rapidly increasing

day by day due to the privileges associated with purchasing. Internet shopping provides lower-priced tangible and intangible products and enables customers to purchase faster (Cuneyt & Gautam, 2004).

Pakistan is the world's second-most-slowest-on-trend Internet purchaser. In countries like Pakistan, online purchasers consider 18 percent of clothing and 25 percent of computer hardware, and the remaining buyers say that they are not planning or preparing to buy something online in six months, 38 percent. Also, Pakistan's social media does not play an energetic role in affecting online purchasers. Shopping over the Internet, the most important factor is that customers have bad experiences while making purchases through online websites (Nielson, 2010).

In Pakistan, the trend of online shopping began with gifts being sent on different occasions, i.e. New Year's celebration, Valentine's Day, and birthday events are now in the mature phase (Pakistan Today, 2011). To protect from identity misappropriation and fraud, Pakistanis do not use related bank and credit card information to keep them safe from being stolen. It is, therefore, necessary to transfer money via online channels before carrying out a physical inspection that avoids risk or uncertainty. As an additional reason, a convenient system such as PayPal and bank financing or bank support is not available. And that's why the business person is losing 20 percent to 25 percent. That is why trades or businesses need to move more customers from shopping malls to digital malls or virtual malls (Pakistan Today, 2011).

Recently, online shopping has been affected by the Covid-19 pandemic and has changed the overall nature of the business. Retail sales in online shopping showed that the COVID-19 pandemic significantly increased online shopping and its revenue is expected to reach $6.5 trillion by 2023. (Jones, 2020). The number of online shopping customers has increased in both developed and developing countries, such as Thailand, Singapore, Pakistan, and Malaysia. Online shopping began in Pakistan in 2003 with a small number of customers, i.e. 3% of the total population (Rehman, 2018; Bhatti, Saad, & Salimon, 2019), but now, due to the Covid 19 pandemic, online shopping in Pakistan has increased by 10% daily and by 15 percent on Internet users. Online shopping has become an alternative source of shopping and is now considered to be at the top of this pandemic.

To examine the perceived risk role, several studies have been conducted that have identified risk as barriers to online purchase and to clarify the relationship between trust, perceived risk, and behavioral loyalty. Although major research (Farivar, Turel & Yuan, 2017; Trif, 2013; Chiou & Droge, 2006; Ye & Lyu, 2020; Gefen, 2002; Flavián *et al*., 2006; Rauyruen & Miller, 2007; Salam, *et al*., 2005; Corbitt, Thanasankit, & Yi, 2003; Sonia, 2018; Gefen *et al*., 2003; Choi & Choi, 2018; Cheung & Lee, 2001; Jarvenpaa *et al*., 2000; Pavlou, 2003) focused on analyzing the impact of perceived risk on trust and trust on perceived risk empirically. Whereas, the effect of trust on perceived risk needs to be further studied because its impact in the opposite direction is of value as well as being a trust inhibitor.

The main source of perceived risk is the uncertainty of technologies related to the internet environment or the uncertainty associated with the behavior of the second party with whom the transaction is carried out (Pavlou, 2003). Because of these uncertainties, the concerns of consumers are increasing, which gives rise to perceived risk and therefore negatively influences trust. For example, according to Olivero and Lunt (2004), whenever the consumer provides some personal information to make a transaction, they are concerned about leaking their personal information because the security of the Internet is weak. But if consumers feel that they have the advantage of making profits through online purchases, they have to trust the merchant. If the fear of such mishaps is higher, the level of trust will be reduced and therefore it will be necessary to control transactions (Olivero and Lunt, 2004). Besides, researchers focused on perceived risk and trust relationships but did not focus on different perceived risk types.

Meantime, the corresponding study suggested that consumer confidence in online purchases is a significant predictor of behavioral loyalty (Trif, 2013; Gefen, 2002; Rauyruen and Miller, 2007; Flavián *et al*., 2006;

Chiou and Droge, 2006). That is why it can be said that the relationship between behavioral loyalty and perceived risk can be both direct and indirect, while consumer trust can be used as a mediator between them.

The contribution of the present study will be both practical and theoretical. By providing an understanding of the mediating effect of customers, trust in making online purchases in the context of an association between perceived risk and behavioral loyalty; theoretically, it will contribute. The results of the present research are designed to accommodate online merchants in looking for ways to change their business strategies to match consumer trust and values by understanding customer shopping behavior as well as to investigate their behavioral loyalty to the purchase of tangible and intangible products in online stores or e-shops. Besides, the present study can help the business community better apprehend buyers' perception.

Gefen *et al*. (2003) found a lack of trust in online traders as a major factor in inhibiting online purchases. Indeed, Bargh and Mckenna (2004) argued that consumers are required to rely on the online business to a high degree because they are expected to provide their private information and to provide their credit card codes. There is also a concern in countries like Pakistan about perceived risk and trust in online shopping as many fake websites offering misleading products and misuse of customers. There is therefore a need to examine the role of perceived risk and trust in online shopping.

1.2. Research Objectives

The aim of the present study is to examine the effect of perceived risk on behavioral loyalty and also to examine the mediating effect of trust between perceived risk and behavioral loyalty.

1.3. Research Hypotheses

H0: Perceived risk has no significant effect on behavioral loyalty

H1: Perceived risk has significant effect on behavioral loyalty.

H0: Perceived risk has no significant effect on trust

H2: Perceived risk has significant effect on trust.

H0: Trust has no significant effect on behavioral loyalty.

H3: Trust has significant effect on behavioral loyalty.

H0: Trust has no significant mediating effect in the relationship between perceived risk and behavioral loyalty.

H4: Trust has significant mediating effect in the relationship between perceived risk and behavioral loyalty.

2. LITERATURE REVIEW

People can easily purchase goods and services online from the Internet. It is assumed that online purchases give more performance to modern buyers looking for comfort and pace (Yu & Wu, 2007). More than 875 million customers purchased through the Internet according to online purchases of global reports (Nielson, 2008). In two years, online purchasers have increased to 40 percent. In the meantime, the highest online purchases were made in South Korea, which was 99 percent, 97 percent in the UK, 97 percent in Germany, 97 percent in Japan, and 94 percent in the US. However, Pakistan is second in the online buying trend as a slow-moving country. In Pakistan, computer hardware buyers are 25 percent, clothing 18 percent, and the remaining 38 percent say were not willing or we do not want to buy online in the next 6 months. In Pakistan, social media play no active role in influencing online buyers. Another factor is that people have a bad experience in online shopping in this region.

2.1. Perceived Risk

Schierz *et al*. (2010) argued that perceived risk can be considered as an expectation of loss. He also concluded that if consumers expect more losses, they will see a higher level of risk. According to Akhlaq and Ahmed (2015), perceived risk has a negative impact on the consumer's intention to purchase online shopping. This suggests that consumers cannot make a purchase decision if they expect any risk.

In the literature, different authors have classified perceived risks in different types. For example, Garner (1986) identifies six dimensions of perceived risks, including financial, social, performance, physical, psychological, and time risks (Ko *et al*., 2004). Similarly, Featherman and Pavlou (2003) classified perceived risk as psychological, social, safety, financial, time and performance risks. On the other hand, Bhukya and Singh (2015) divided perceived risk into four dimensions: financial risk, psychological risk, physical risk, and functional risk. However, Han and Kim (2017) investigated perceived risks in the context of online shopping and divided them into multidimensional risks, i.e. product, financial, privacy, psychological/social, time and security.

Consumer perception of risk is very important during the assessment and purchase of any product (Ko *et al*., 2004). It has usually been felt that consumers feel a higher level of risk when buying anything online compared to traditional marketing.

Some authors have studied perceived risk in online shopping (Chauhan, Yadav & Choudhary, 2019; Zhang & Li, 2019; Amirtha, Sivakumar & Hwang, 2020). According to Bhatnaga and Ghose, (2004); Bhatnagar *et al*., (2000) perceived risk in Internet shopping respectively is classified as financial risk and product performance. Forsythe, Petee, & Kim(2002) and Forsythe & Shi (2003) examined the different types of risk perceived by Internet purchasers and argued that there are three major types of risk: financial risk, product risk, and time risk, which are related to how often customers search online intending to make purchases.

Pavlou (2003) stated that there are two components to the risk in e-commerce and the uncertainty in the internet transaction: environmental uncertainty in the technical environment of online transactions and behavioral uncertainty in the transaction partner (Ring *et al*., 1994; Pavlou, 2003). Uncertainty of behavior is due to online traders and environmental impacts due to unforeseen features of immanent infrastructure. In another study, Rasty (2020) stated that risk is a barrier to trust in online shopping. Similarly, Hasan, Shams & Rahman (2020) also examined the impact of consumer trust and perceived risk on loyalty. The study, therefore, developed a research model that focuses on the role of trust as a variable that mediates the association between perceived risk and behavioral loyalty.

2.2. Behavioral Loyalty

According to Hume *et al*., (2007), loyalty and re-purchase are regularly befuddled concepts, besides being credited to the multi-dimensional form of fidelity, and in addition to that, Law Hui & Zhao (2004) stated the different meanings of the concept of fidelity and used Oliver's meaning of fidelity. For example, 'the actual commitment of the client to sponsor or re-purchase constantly ideal goods or services will therefore lead to the repurchase of a similar brand or set of brands in the future'. Moreover, as a state of mind, they get loyalty slightly more than behavior. Accordingly, Dixon *et al*. (2005) indicated that Behavioral Loyalty is viewed solely as a Repurchase of similar goods or services. Despite competitive efforts, loyal customers are expected to repurchase consistently. Besides, Mellens *et al*. (1996) and Law, *et al*. (2004) argued that brand loyalty involves the actual purchase of the brand and those verbal explanations of preferences are not sufficient to ensure brand loyalty. The consumer's willingness to repurchase is an essential element of loyalty.

Subsequently, trust has all been assessed as a predecessor of fidelity (Gefen, 2002; Chaudhuri and Holbrook, 2001), while an analysis of the impact of quality service on trust and devotion has shown that trust has a positive effect on loyalty. Several studies have been conducted which have studied loyalty in online shopping (Vijay, Prashar & Sahay, 2019; Boateng, 2019). In literature, various scholars have studied the effect of trust on loyalty in different contexts (Hung, Cheng & Chiu, 2019; de Matos, Curth & Garcia, 2020; Kwon, *et al*.,

2020; Atulkar, 2020). Similarly, Trif (2013) also found a positive link between trust and consumer behavioral loyalty. These results are comparable to those of Chiou and Droge (2006) and Miller & Rauyruen (2007). Also, various studies looked at the mediating effect of trust on loyalty in different contexts.

2.3. Trust

According to Lewis and Weigert (1985), trust is considered to be a belief in the uncertain course of action of the self-assured hope that all peoples will perform their actions professionally, obediently, and perfectly. Precisely, Bhattacharya *et al.* (1998) and Boon and Holmes (1991) argued that trust was a certainty and trust over extra individuals under undefined and unsafe conditions. Many scholars have proposed an e-commerce or e-commerce background and have also planned theoretical and experimental studies on trust (Jiang, *et al*., 2019; Zhao, Huang & Su, 2019; Hung, Cheng & Chiu, 2019).

Shim, *et al*. (2013) argued that online shopping is a technique that consumers use to purchase goods or services over the Internet. Internet purchases involve a higher level of risk or uncertainty when compared to conventional shopping. Kaur (2005) stated that the risks of risky items, unsecure payment methods, the risk of losing personal deprivation, and the misuse of individual data were identified by the consumer when purchasing goods or services on the Internet. Likewise, the findings show that online purchasers will spend more money and trust if the safety of the website is measured.

McKnight *et al*., (2002) stated that, in the context of e-commerce, trust is becoming a major issue, because exchange relationships are based on impersonal internet infrastructure. In particular, consumers face a hurdle in buying intangible and tangible products online from an unknown person; furthermore, they could not touch or see the product. Trust, therefore, plays a central role in making it easier for consumers to overcome risk perception and insecurity. As security and privacy concerns are major barriers on the Internet channel, customers who do not trust the merchant will not provide their confidential details, including credit card information (Hoffman *et al.*, 1999). That is why, according to Cheskin-Research (1999), the process of creating trust in online businesses is very slow, because the more the consumer repeats the transaction, the more trust will develop. In literature, various scholars have studied the effect of trust on loyalty (Hung, *et al*., 2019; Yeon, Park & Lee, 2019; Song, Wang & Han, 2019; Hasan, Shams & Rahman, 2020; Melián-Alzola & Martín-Santana, 2019; (Riquelme, *et al*., 2019; Tran & Strutton, 2020; Iglesias, *et al*., 2020). The main objective of the present research is to identify the 'Effect of perceived risk on behavioral loyalty in online shopping with a mediating effect of trust.

3. RESEARCH METHODOLOGY

3.1. Population and Sampling Design

The population of this study includes business students from all universities/institutes in the Peshawar region who have already had online shopping experience. Various scholars claim that students are part of the consumer section and that they are considered heavy and active users of the Internet compared to other parts of the population (Liu *et al.*, 2020; Vijay, Prashar & Sahay, 2019; Delafrooz, Paim, & Khatibi, 2011; Ladhari, Gonthier & Lajante, 2019). Cassis (2007) stated that students are the main users of online shopping and spend more money on the Internet. There are a total of 15 universities/institutes in Peshawar City offering business studies programs. The sample is a subset of the population and is information about the entire population. The table proposed by Krejice and Morgan (1970) was used as a guideline for sample size 351 respondents with a population size of 4006.

As a result of both financial and time constraints, the first three universities, i.e. the University of Agriculture, the University of Peshawar, and the Institute of Management Sciences, were selected as target populations, and then 351 units of analysis from these universities/institutes, which had experience in online shopping, were selected through a purposeful sampling technique. The Proportional Allocation Method proposed by Cohen (1977) was followed to determine the number of respondents from each institute/university. Below is a Table **1** setting out the allocated number of respondents from each institute/university.

Table 1. Allocated number of respondents from the institute/university.

S. No.	University Name	Business Students	Sample
1	The University of Agriculture	2100	184
2	IM Studies, University of Peshawar	550	48
3	IM Sciences Hayatabad	1356	119
4	Total	4006	351

Information source: Admission cell

Based on the literature review, the study has developed a model that investigated the effect of perceived risk on behavioral loyalty in online shopping with mediating effect of trust (Figure **1**).

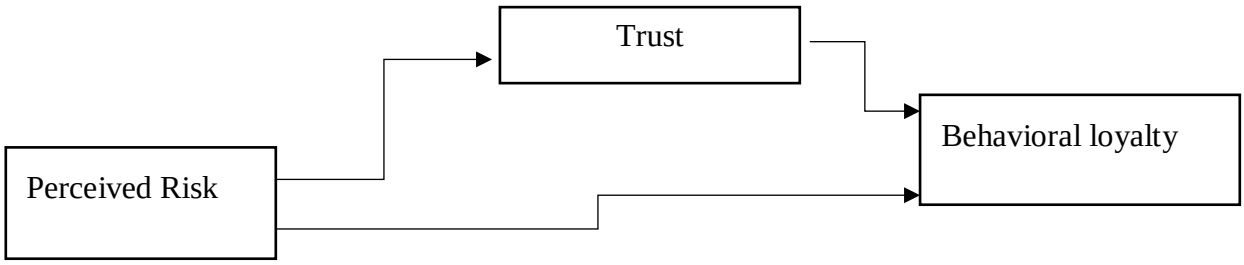

Figure 1. Theoretical framework of the study.

Mitchell (1999) explained the perceived risk as a "subjectively determined loss expectation". In the literature, some scholars (Forsythe, Petee, & Kim, 2004; Forsythe & Shi, 2003) identified three Perceived Risk constructs, 'Financial Risk, Product Risk, and Time Risk.' Financial risk is defined as the likelihood that a purchase will result in a monetary loss (Horton, 1976; Sweeney, Soutar, and Johnson, 1999). Product risk is defined as the likelihood that an item will not meet the performance requirements originally intended (Peter & Tarpey, 1975). Time risk is the perception that time, convenience, or effort may be wasted when a purchased product is repaired or replaced. Financial risk consists of 5 items and is based on the Li and Zhang study (2002). Product risk consists of 5 items and is taken from the study by Hanjunet, *et al*., (2004). Time risk consists of 6 items and is taken from the Forsythe *et al*., study (2006). All the items answered from the respondent, measured on a 5-point Likert scale ranging from score 1-5, as (1) strongly disagreed and (5) strongly agreed.

The individual who repeatedly purchases a specific brand is loyal to that brand (Odin *et al*., 2001). The three items of Behavioral Loyalty were taken from the Study of Srinivasan, Anderson, and Ponnavolu (2002), and the respondents' replies were measured on a 5-point Likert scale ranging from score 1-5, as (1) strongly disagreed and (5) strongly agreed. While the second item of behavioral loyalty was coded in reverse to test whether or not the respondents answered all the questions carefully. Reverse coded item was labeled as "R" and was treated in reverse at the time of data entry to get the actual meaning of the respondent's response.

"Trust" is categorized as the group's enthusiasm to be vulnerable, in contrast to the activities of the additional association, in the opinion of the wish that the further action is carried out precisely based on the trustee, irrespective of the quantity to be monitored or regulated by further rivalry (Mayer *et al*., 1995). The 4 trust items adapted from the Anderson and Srinivasan (2003) study and the feedback of the respondents were measured on a 5-point similar scale from a score of 1-5, as (1) strongly disagreed and (5) strongly agreed.

3.2. Data Collection Method

Data was collected through a survey questionnaire from only those with online shopping experience who participated in the survey. As the respondents reported, they used a variety of e-commerce sites, the most prominent being Amazon, eBay, daraz.com and Best Buy, etc. Each respondent is asked to recall the e-commerce site they frequently visit and to assess the extent to which they have perceived the risk factor, trust, and loyalty.

3.3. Data Analysis

The study used the SPSS v.20 software for statistical analysis. Cronbach Alpha coefficient is used by the study to test the reliability of the data. Regressor and regressand variable reliability was measured along with mediating variables (Cronbach, 1952).

The study also carried out a regression analysis. To analyze the regression model, Barron & Kenny (1986; 2013) provided four key steps to analyze whether or not these variables are mediating (Shah, Hashmi & Chishti, 2013) (Figure **2**). Here are the four main steps;

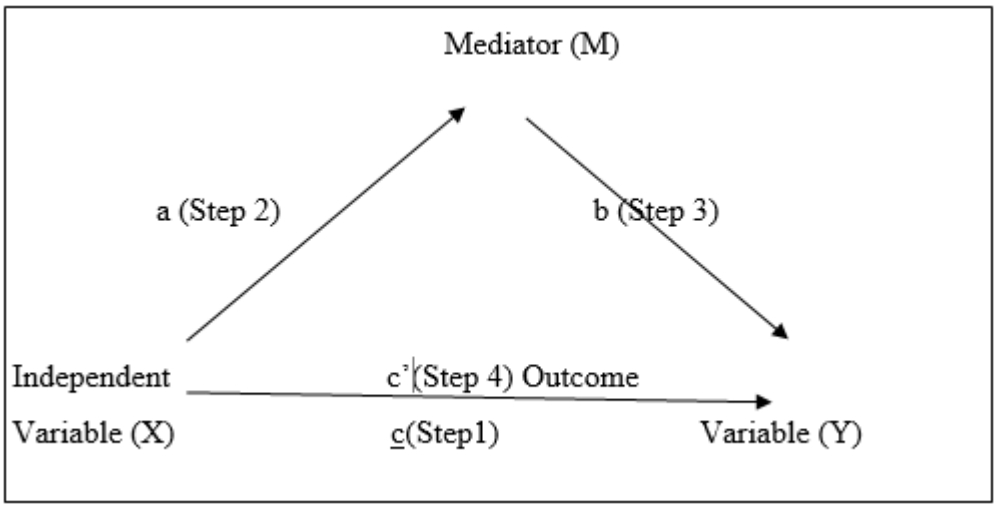

Figure 2. Barron and Kenny model mediation (1986).

The study used the regression model below to test Step 1 of Figure **2**.

The regression model in equation 1 was used to measure the effect of perceived risk on behavioral loyalty.

$$BehavioralLoyalty = \beta_0 + \beta_1 PercivedRisk + \varepsilon_i \qquad \text{Eq(1)}$$

In order to measure the effect of Perceived Risk on Trust, the assumption, as indicated in Step 2 of Figure **2**, was applied to the regression model referred to in equation 2.

$$Trust = \beta_0 + \beta_1 PerceivedRisk + \varepsilon_i \qquad \text{Eq(2)}$$

In order to measure the effect of trust on behavioral loyalty, the hypothesis referred to in Step 3 of Figure **2** was applied to the regression model referred to in Equation 3.

$$BehavioralLoyalty = \beta_0 + \beta_1 Trust + \varepsilon_i \qquad \text{Eq(3)}$$

Multiple regression models were used to test the hypothesis that was used in Step 4 of Figure **2** of Equation 4.

$$BehavioralLoyalty = \beta_0 + \beta_1 PercivedRisk + \beta_2 Trust + \varepsilon_i \qquad \text{Eq(4)}$$

It should be noted that when the association is defined in steps 1 to 3 the decision relating to the full mediation as well as the partial mediation of the Trust should be decided on the significance of 1 and β2 of the model in equation 4.

4. RESULTS AND DISCUSSION

4.1. Gender-Based Detail

Table 2. Gender Wise Detail of Students.

Gender	Frequency	Percent	C. Percent
Male	272	85	85
Female	48	15	100
Total	320	100.0	

Table **2** shows the gender-based distribution of respondents as the sample size. Out of 320 participants, 272 were male, while 48 were female, representing 85 percent and 15 percent respectively. The sample size of the present study was 351, but only 320 participants responded when questionnaires were completed and compiled. This study therefore applied and tested 320 questionnaires for further statistical analysis.

Table 3. Participants Ages.

Age (years)	Frequency	Percent	C. Percent
19-24	185	57.9	57.9
25-29	115	35.9	93.8
30-34	10	3.1	96.9
35 and above	10	3.1	100

Table **3** shows the different age groups with their number of respondents and percentages are reported as 19-24 years with 185 respondents (57.9%), 25-29 years with 115 respondents (35.9%), 30-34 years with 10 respondents (3.1%) and over 35 with 10 respondents (3.1%) respectively.

Table 4. Qualification of the Respondents.

Qualification	Frequency	Percent	C. Percent
Bachelor's	170	53.1	53.1
Masters	75	23.5	76.6
MS/MPhil	65	20.3	96.9
PhD	10	3.1	100
Total	320	100	

Table **4** shows the distribution of the sampled respondents on the basis of their qualifications. Bachelor's student qualifications were 170 (53.1 percent) out of 320 sample sizes. Masters students were 75 (23.5 per cent), MPhil/MS students were 65 (20.3 per cent) and PhD students were 10 (3.1 per cent) respectively.

4.2. Reliability Results

The study analyzed the consistency of statistics internally i.e. the reliability statistic by the most commonly followed Cronbach's alpha method, i.e. the results for the variables concerned. Perceived Risk, Trust and Behavioral Loyalty are summarized in Table **5**.

Table 5. Reliability Analysis.

Variables	Cronbach's Alpha	No. of Items
Perceived Risk	0.829	16
Trust	0.773	4
Behavioral Loyalty	0.679	3

Results of Cronbach's alpha are the most appropriate estimates for internal consistency and should be greater than 0.7 (Nunnally, 1978) compared to Hair *et al*., (2010), where Cronbach's alpha values are greater than or near 0.7 are also considered to be acceptable. In this study, Cronbach's alpha value for perceived risk and trust is greater than 0.7, i.e. 0.829 and 0.773, respectively, whereas for trust, the value i.e. 0.679 is also acceptable because, according to some researchers such as Hair *et al*., (2010), Larcker and Fornell (1981), if Cronbach's alpha value is close to 0.7, it is also acceptable. Consequently, the items included in the questionnaires are considered to be reliable on the basis of the above results in the table.

4.3. Analysis of Regression

In order to analyze the results, the regression analysis is performed by the studies to determine the impact of regressand and (Behavioral Loyalty) on the regressor (Perceived risk). The study also analyzed the mediating role of the variable (trust) in the regression of the study. Below is a detailed discussion of the results of the study.

4.3.1. Relationship Between Perceived Risk and Behavioral Loyalty

In Table **6** below, the value of R2 is 0.242 or 24.2 per cent, which means that there is only 24.2 per cent variation due to the perceived risk of behavioral loyalty. Whereas the significance of the F statistic is 0.000, which is less than 0.05, which means that the overall model fits. In addition, the Beta value is-0.749, which means that if there is a one-unit increase in the perceived risk, the Behavioral Customer Loyalty will be reduced by 0.749.

There is therefore a significant negative relationship between perceived risk and behavioral loyalty. It therefore rejects the null hypothesis of the study and accepts the alternative hypothesis (H1) i.e. The perceived risk has a significant impact on behavioral loyalty. These results are consistent with the results of Pavlou (2003), who also found that perceived risk has a significant impact on behavioral loyalty.

Table 6. Coefficients of Perceived Risk and Behavioral Loyalty.

	Unstandardized Coefficients		Standardized Coefficients		
Model	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	5.221	0.135		38.558	0.000
AVERPR	-0.749	0.074	-0.492	-10.112	0.000

R^2 = 0.228 Dependent Variable: Behavioral loyalty.

4.3.2. Relationship Between Perceived Risk and Trust

In Table **7**, the value of R2 is 0.228 or 22.8 per cent, which means that there is only 22.8 per cent variation due to the perceived risk in the trust. Whereas the value of significance for the F-statistic is 0.000, which is less than 0.05, which means that the overall model is appropriate. In addition, the regressor (perceived) shows the negative value for the Beta, i.e. -0.728, which means that if there is a one-unit increase in the perceived risk, the customer's trust will be reduced by 0.728.

It can therefore be concluded that there is a significant negative relationship between perceived risk and trust. It therefore rejects the null hypothesis of the study and accepts the alternative hypothesis (H2) i.e. The perceived risk has a significant impact on the trust. Thanasankit *et al*., (2003) and Gefen *et al*. (2003) also found the same results and concluded that perceived risk had a significant effect on trust.

Table 7. Coefficients of Perceived Risk and Trust.

	Unstandardized Coefficients		Standardized Coefficients		
Model	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	5.256	0.136		38.516	0.000
AVERPR	-0.728	0.075	-0.478	-9.750	0.000

R^2 = 0.22 Dependent Variable: Trust: F-value = 95.056.

4.3.3. Relationship Between Trust and Behavioral Loyalty

Analyzing the relationship between Trust and Behavioral Loyalty, in Table **8** below, the value of R2 is 0.327 or 32.7 per cent, indicates that there is only 32.7 per cent variation explained by trust in Behavioral Loyalty. Whereas the significance of the F statistics is 0.000, which is less than 0.05, which means that the overall model is appropriate. In addition, the regressor shows a positive value for Beta, i.e. 0.573, which means that if there is a one-unit increase in trust, the customer's behavioral loyalty will be increased by 0.573.

It can therefore be concluded that there is a significant positive relationship between trust and Behavioral Loyalty. It therefore rejects the null hypothesis of the study and accepts the alternative hypothesis (H3) i.e. Perceived risk has a significant effect on trust that is consistent with the outcome of Flavián *et al*. (2006), who also noted that there is a significant effect of trust on behavioral loyalty.

Table 8. Coefficients of Trust and Behavioral Loyalty.

	Unstandardized Coefficients		Standardized Coefficients		
Model	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	1.617	.183		8.829	.000
AVERPR	.573	.046	.572	12.501	.000

R^2 = 0.32, Dependent Variable: Behavioral Loyalty: F-value- = 156.274.

4.3.4 Mediation Effect of Trust Between Perceived Risk and Behavioral Loyalty

The study has also tested the trust as mediator between the perceived risk and Behavioral loyalty. Therefore, the results in the below Table **9**, has shown some significant findings which are in line with the Barons and Kenny (1986) rules i.e. if there is continuously significant results among step 1, step 2 and also in step 3 up to step 4, X's p-value which is showing that the regressor (Perceived risk) is however significant which means results of the present study promotes the partial mediation for regressand variable (Behavioral loyalty).

The last alternative hypothesis (H4) of the study is therefore also accepted, i.e. trust significantly mediates the relationship between perceived risk and Behavioral Loyalty, whereas the null hypothesis is rejected. These results were also identified by Hong & Cho (2011) and concluded that there is a mediation effect between these variables.

Table 9. Coefficients of Trust Between Perceived Risk and Behavioral Loyalty.

	Unstandardized Coefficients		Standardized Coefficients		
Model	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	2.922	0.289		10.123	0.000
AVERTRT	0.438	0.050	0.437	8.788	0.000
AVERPR	-0.430	0.076	-0.283	-5.681	0.000

R^2 = 0.38, Dependent Variable: Behavioral Loyalty: F-value- = 101.883.

5. DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1. Discussion

This research study aims to investigate the effect of perceived risk on behavioral loyalty in online shopping with a trust editing effect. The study has developed some hypotheses after reviewing the literature to find out that there is a significant impact of perceived risk on behavioral loyalty and trust, as well as the impact of trust on behavioral loyalty. The main significant hypothesis of the study was to investigate the mediating relationship between perceived risk and behavioral loyalty. For this reason, the study selected the sample size of three major universities, i.e. the University of Agriculture, IM Studies (University of Peshawar) and IM Sciences, Hayatabad Peshawar as the target population, and then 351 units of analysis from these universities/institutes, which had experience in online shopping, were selected through purposeful sampling.

Besides, the study carried out both the reliability and the mediation regression analysis because the objective of this study is to examine the effect of perceived risk on behavioral loyalty and also to examine the mediating effect of trust between perceived risk and behavioral loyalty. The study carried out the reliability test and the values for Cronbach's alpha for the present study were almost 0.7 and some were more than 0.7 which confirmed the reliability, while the study used the Barons and Kenny's (1986) mediation testing approach to the trust investigation as a mediator variable. Therefore, the regression analysis in this study was carried out in this sequence; initially, the regression (Behavioral Loyalty) variable was regressed to the regressor (Perceived Risk) whose results were significant and then the mediator variable (Trust) was regressed to the regressor (Perceived Risk) whose results were also significant and in the last regression variable (Behavioral Loyalty) regressed. If the regressor has a significant relationship with the mediator, whereas the mediator also has a significant association with the regressor, this means that the variable (trust) plays the role of partial mediator.

In different countries, i.e. developed and developing countries, such results have also been found by numerous researchers, some of whom have found significant results and some have found insignificant results (for instance, Corbitt, Thanasankit & Yi, 2003; Cheung & Lee, 2001; Flavian, Guinaliu & Gurrea, 2006; Jarvenpaa, Tractinsky, & Vitale, 2000; Gefen, Karahanna, & Straub, 2003; Gefen, 2002; Salam, Iyer, Palvia, & Singh, 2005, Pavlou, 2003).

5.2. Conclusion

The internet is a very important way or tool to shop online. The Internet provides convenient access and removes space and time barriers to enable consumers to shop 24/7. In electronic commerce, there is a rapid increase in sales and also an increase in online consumers. Such action has been used to improve the cost of transactions and the web-based ordering system. However, high barriers to sustained growth in electronic commerce are associated with the perception of consumer risk in online purchases. Behavioral loyalty has shown a significant association with perceived risk and trust in line with Flavian, Guinaliu & Gurrea, 2005; Kwon, *et al*., 2020; Atulkar, 2020; Corbitt, Thanasankit, & Yi, 2003; Gefen, Karahanna, & Straub, (2003); Gefen, (2002; Yeon, Park & Lee, 2019; Song, Wang & Han, 2019). That is why all null hypotheses in the study have been rejected and alternative hypotheses accepted. Moreover, the perceived risk has a negative impact on behavioral loyalty because, whenever consumers make online purchases, they fear financial as well as some other risks (Maignan & Lukas, 1997; Hasan, Shams & Rahman (2020), while the perceived risk also has a negative impact on trust because, according to Jarvenpaa *et al*., (2000) & Pavlou, (2003), trust increases. Besides, trust has a positive impact on Behavioral Loyalty, which is consistent with the Berry (2000) and Melián-Alzola & Martín-Santana (2020) studies, which argued that trust exists at the center of the incentive that a solid product gives to its client, as this empowers them to understand the assessment and offer of the apparent uncertainty of purchase and use of the offer. The findings also stated that trust significantly mediates the relationship between perceived risk and behavioral loyalty that is consistent with the Riquelme, *et al*. (2019) and Tran & Strutton studies (2020).

5.3. Limitations

Apart from the significance of this study, there are also some limitations to this study which are set out below:

The first limitation of this study is that only three institutions/universities located in the Peshawar district have compiled data from limited geography.

The second limitation of this study was time and financial constraints because the variables remained limited.

The third limitation of this study is that the study consists of a sample size of 351 respondents.

The fourth limitation of the study is that university students have been considered for data collection.

The fifth limitation of this study is that it is considered a general risk factor for online purchases.

5.4. Recommendations

Due to the limitations stated above, this research study suggests the following future directions:

For future studies, to achieve comprehensive results, research data from different states/provinces can be equally distributed and collected across country regions.

Besides, additional variables will be added for future studies to obtain some new results.

Other population groups, such as college students and staff, can be considered as well.

Finally, some other categories of products, such as shopping goods, convenience goods, specialty goods, etc., should be considered and investigated to understand the different levels of perceived risks in each category of online purchase.

The pandemic of COVID-19 has increased online shopping worldwide. Further research is therefore needed to deeply investigate how the recent pandemic can bring about positive and negative changes in the online shopping trend.

DISCLOSURE

This paper is extracted from author's own research thesis.

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