

# The Effect of Perceived Risk in Online Shopping in Jordan: The Mediating Role of Intention and the Moderating Role of Experience

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## Abstract

The aim of this paper is to investigate perceived risk as a second-order construct with three dimensions, namely: financial and performance and time risks in the context of Jordan and its effect on online shopping behavior. Moreover, to investigate the role of experience as a moderator on the relationship between perceived risk and actual online shopping behavior. Finally, to investigate the mediation effect of intention between perceived risk and actual online shopping behavior. Theory of planned behavior was adopted in this study. The research was conducted based on empirical data collected through an emailed questionnaire from university students in Jordan. IBM SPSS AMOS version 24.0 was utilized for data analysis. The findings indicated that intention partially mediated the relationship between perceived risk and actual online shopping behavior. Further, the experience was moderate the relationship between perceived risk and actual online shopping behavior.

**Keywords:** Perceived Risk, Intention, Actual Online Shopping Behavior, Theory of Planned Behavior (TPB), Online Shopping

## Introduction

### Background of the Study

The internet is a common, community-oriented and self-sufficient setup that can be utilized by a vast number of individuals around the globe (THAM et al., 2019). The headway of internet innovation has made the development of online shopping beyond legacy methods and has become an inherent piece of life in the 21st century. The internet permits purchasers to shop whenever, anyplace, with the capacity to compare items and costs with a few clicks and to have a look at the reviews of other buyers for the desired product.

In the context of Jordan, despite of the internet penetration is quite high (88%), the Department of Statistics in Jordan (2017) determined that online shopping is low as 4.8% only (Alsoud & Othman, 2018).

Due to the absence of face-to-face contacts in the online shopping market, examining and recognizing factors that impact the shopper is crucial. Customers have different characters and purposes when they are attempting to purchase online. Some are searching for items or services, making study or looking at cost. A portion of the potential purchasers will continue with online buy. Else, they are simply doing a survey, comparing price and availability information, but not continuing to buy. To improve internet shopping, understanding online behavior and intention towards online shopping should be prioritized (Wen et al., 2020).

With the growth of online shopping, consumers have to deal with risks about the product, the environment, or the buying process. Literature has reported that perceived risk is a fundamental factor in determining the acceptance rate of online shopping (Orubu, 2016). In marketing literature, it was reported that perceived risk directly affects purchasing and purchase intention, i.e., when consumers have high perceived risk, the probability of consumers shopping online will be low (Ariff et al., 2014).

Moreover, other factors such as online shopping experience are vital in online shopping, but despite its core importance, online shopping experience research is still limited and fragmented (Kawaf & Tagg, 2017). Hence, this study investigates the moderating role of experience on the relationship between perceived risk and actual online shopping behavior. Further, the mediating effect of intention between perceived risk and actual online shopping behavior.

### **Objective of the Study**

- 1- To investigate the effect of perceived risk on intention.
- 2- To investigate the effect of perceived risk on actual online shopping behavior.
- 3- To investigate the effect of intention on actual online shopping behavior.
- 4- To investigate the mediating effect of intention between perceived risk and actual online shopping behavior.
- 5- To investigate the moderating effect of experience on the relationship between perceived risk and actual online shopping behavior.

### **Significance of the Study**

This study aims to understand consumers' behavior in online shopping in the context of Jordan by utilizing the theory of planned behavior to investigate the influence of perceived risk and online shopping experience in online shopping. Hence, this would enhance a better understanding of online retailers about the effect of these factors on consumers' decisions to shop online, which will contribute to developing online shopping for the future.

### **Literature Review and Hypothesis Development**

#### **Online Shopping**

According to (Rizwan et al., 2014), online shopping is a process where the customer buys products and services directly from the internet as a medium. Online shopping is an e-commerce transaction where the consumers make the purchase in the platform and interact directly with the seller. E-commerce is also known as e-shopping, online shopping and internet shopping (Vaux, 2011).

#### **Relationship Between Perceived Risk, Intention and Actual Online Shopping Behavior**

According to (Schierz et al., 2010), Perceived risk is the losses expectation. Greater expectations of losses mean higher level of risk. perceived risk is a negative insight that

produce based on the unpredicted and changeable results that can be perceived from the purchased products (Laroche et al., 2005). Whereas, Ko et al. (2004) stated that perceived risk is related to consumers' perception regarding adjustable and contrary results of purchasing a product or a service.

(Ahmed & Akhlaq, 2015) indicated in their study that perceived risk was found to have a negative impact on consumer's intentions to buy online, which proposes that customers' intention to buy online will be reduced whenever they understand that the transaction is risky. In other words, customers will not be engaged in online purchasing once they notice that the level of risk is high. In literature, it was proved that perceived risk has a negative effect on online shopping intention, (Zhao et al., 2017; Ahmed & Akhlaq, 2015). Moreover, (Zhang et al., 2012) reported in his study that perceived risk has a statistically significant but negative impact on online shopping behavior.

According to online shopping literature, there is (up 'til now) no concurred set of dimensions for perceived risk (Al-Rawad et al., 2015). In this research, the perceived risk is considered a second-order construct with two dimensions: financial risk and performance risk.

Two dimensions of perceived risk were found to be fundamental, First, financial risk, which was defined as the monetary loss that can potentially occur from initial purchase of a product and its following maintenance (Featherman & Pavlou, 2003). Second, performance risk was defined as the likelihood that a product may fail to meet the performance that originally was intended for (Zheng et al., 2012). Finally, time risk is described as "the amount of time taken for the product to be received and time & effort wasted in returning or exchanging the product (Hassan et al., 2006).

### **Relationship Between the Effect of Intention on Actual Online Shopping Behavior**

According to Ajzen (1991), intentions are assumed to be the indicator to understand the extend of people willingness to perform a certain behavior and how many attempts, they are willing to try to perform a specific behavior. The intention has been determined as a salient predictor of actual online shopping behavior (Lim et al., 2016).

Jamil (2012), in his study to investigate the determinant of online purchasing behavior in Malaysia relying on integrating two theories, Theory of Planned Behavior (TPB) and Technology Acceptance Model (TAM). Results proved that there is a statistically significant and positive impact of intentions on actual online shopping behavior. Moreover, according to (Al-Jabari, 2013), who conducted a study among 317 academic staff in Jordan from ten universities, his results revealed that intention significantly affects actual online shopping behavior.

### **Moderating Effect of Experience on the Relationship Between Perceived Risk and Actual Online Shopping Behavior**

There are several terms that come with customer experience, and these include online shopping experience (Chen et al., 2009), online customer experience (Liao & Keng, 2013), and web experience (Constantinides et al., 2013).

Chen et al. (2009) considered the online shopping experience as the frequency of online purchases. Moreover, it can also be related to the number of purchases that the consumer has previously made (Pappas et al., 2014).

Customers have amassed more online experience over the previous decade, and thus accordingly may hold diverse all-encompassing perspectives of online shopping, together with risk perceptions. Investigating how online shopping experience affects risk perceptions

in the field of online shopping does not stop in expanding the consideration of the importance of risk perceptions and its effect on online shopping, but it goes beyond to gives meaningful implications for marketers to develop complementary strategies to counter the effect of risk perceptions that are adversely associated with online shopping (Dai et al., 2014).

Accordingly, the following hypothesis were developed:

H1: There is a negative relationship between perceived risk and intention.

H2: There is a negative relationship between perceived risk and actual online shopping behavior.

H3: There is a positive relationship between intention and actual online shopping behavior.

H4: Intention mediates the relationship between perceived risk and actual online shopping behavior.

H5: Experience moderates the relationship between perceived risk and actual online shopping behavior.

## Research Methodology

### Theoretical Framework

The main theory considered to be suitable for the current study is Theory of Planned Behavior (TPB), because it can predict human behavior and explain customer's decision-making process toward a particular product (Ajzen, 1991).

The proposed model of this research showed in figure 1 below.

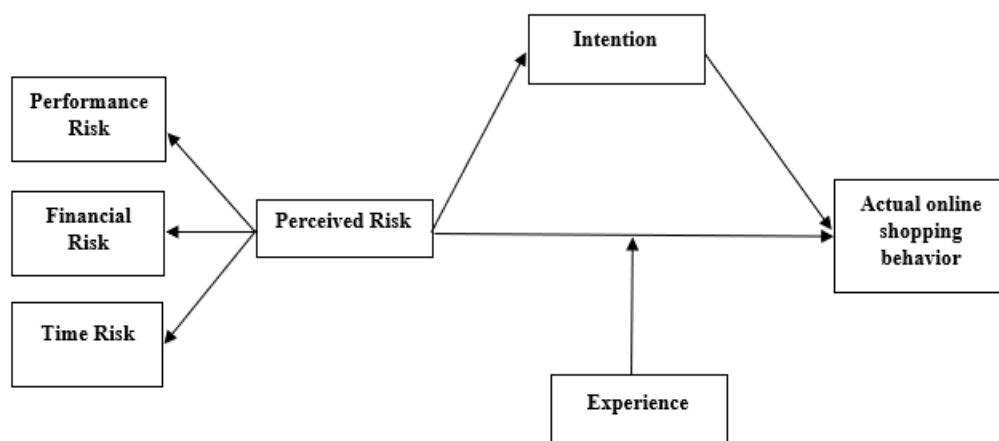


Figure 1: A proposed model

## Analysis And Findings

### Confirmatory Factor Analysis (Cfa)

CFA was performed using the software IBM-SPSS AMOS 24 for the purpose of confirming the factor structure, dropping items with low factor loadings, and to evaluate the constructs convergent validity. latent constructs are considered valid if it achieved the required value of fitness indexes. Specifically, three Model Fit categories should be achieved; Absolute Fit index, Incremental Fit index and Parsimonious Fit index (Awang et al., 2015, 2018; Kashif et al., 2015; 2016; Noor et al., 2015; Yusof et al., 2018). Table 1 illustrates the fitness indexes and their acceptable range values.

Table 1

*Acceptable Range Values For the Categories of Model Fit*

Name of category	Name of index	Level of acceptance
Absolute Fit Index	RMSEA	RMSEA < 0.08
	GFI	GFI > 0.90
Incremental Fit Index	AGFI	AGFI > 0.90
	CFI	CFI > 0.90
	TLI	TLI > 0.90
	NFI	NFI > 0.90
Parsimonious Fit Index	Chisq/df	Chi-Square/ df < 5.0

Source: Awang et al. (2018)

This study's framework consists of one exogenous construct, one mediator construct, one moderator construct, and one endogenous construct.

### The Pooled Confirmatory Factor Analysis (CFA)

The Pooled-CFA procedure was carried out for validating all constructs in the model at once since the model is not too complicated. The result of the Pooled-CFA procedure is shown in figure 2.

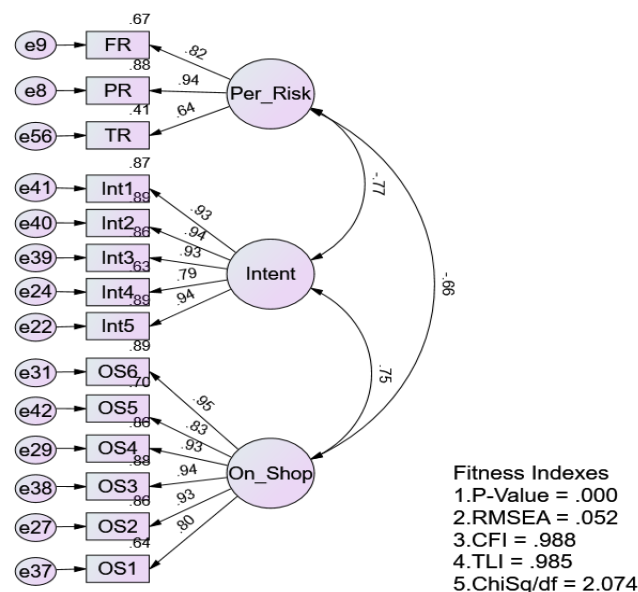


Figure 2: The Pooled CFA presents the factor loading for every item as well as components

### The Validating Procedure for the Construct

As shown in figure 2, all constructs fitness indexes, the factor loading for every component, and the factor loading of each item are shown. Therefore, the researcher was able to assess the Construct Validity, Convergent Validity, Discriminant Validity and Composite Reliability for the construct.

For instance, the Perceived risk construct has two components, namely, financial risk and performance risk. The factor loading for financial risk is 0.74, while the factor loading for performance risk is 0.97. Both factor loadings were found in a good range since they exceeded the threshold value of 0.6 (Awang, 2015; Awang et al., 2018).

### The Assessment of Construct Validity for all Constructs

Based on the results in figure 2, The fitness Indexes found in the accepted range, as indicated in table 1. The Absolute Fit category, namely RMSEA is 0.052, the Incremental Fit category, namely CFI is 0.986, and finally, the Parsimonious Fit category, namely the ratio of Chisq/df is 2.097. Thus, the measurement model of perceived risk, intention, experience and actual online shopping behavior constructs have fulfilled the criteria for Construct Validity (Awang, 2012; 2015; Awang et al., 2015, 2018; Kashif et al., 2015, 2016; Noor et al., 2015; and Afthanorhan et al., 2017, 2017a, 2018, 2019).

### Structural Equation Modeling (SEM)

After the CFA report has been completed and all values have fulfilled the required validity and reliability thresholds, the author will conclude that the measurement models have been validated for all latent constructs involved in the model. (Awang, 2015; Awang et al., 2018; Mohamad et al., 2016, 2017, 2018; Yusuf et al., 2017; Afthanorhan et al., 2017, 2017a, 2018, 2019).

The next step is the assembly of these constructs into the structural model to perform Structural Equation Modeling (SEM). Constructs should be placed from left to right. The exogenous constructs should be placed on the far left. In the middle, the mediator constructs and the endogenous constructs at the far right (Awang, 2015; Mohamad et al., 2016, 2016a; Yusuf et al., 2017). The researcher then using the single-headed arrow connects the exogenous construct with its related endogenous construct, according to the hypothesis direction. Lastly, using the double-headed arrow, as presented in figure 3, all exogenous constructs are related.

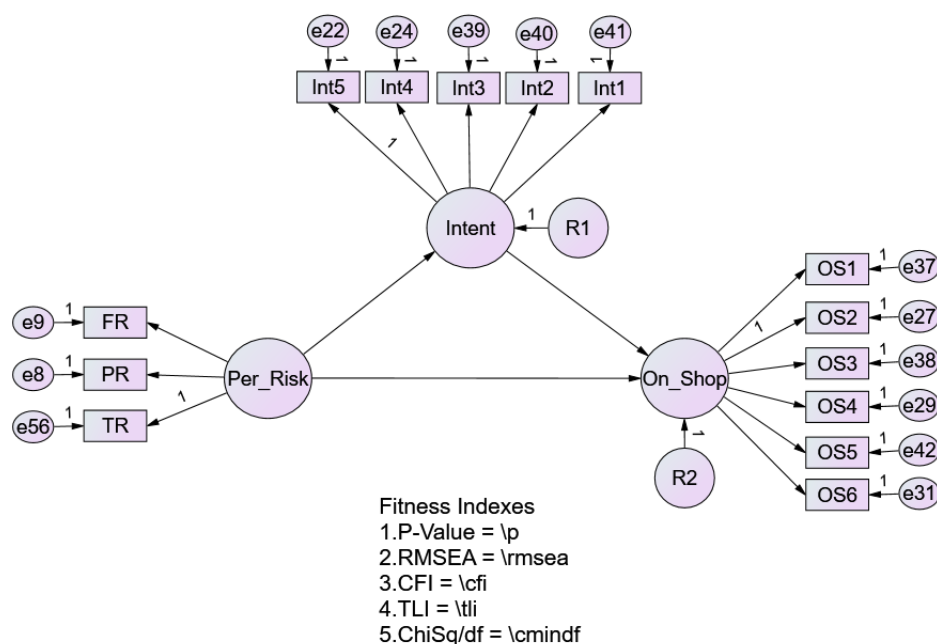


Figure 3: The Structural Model ready to execute SEM



The single-headed arrow (Figure 3) demonstrates the causal effects being estimated of an exogenous construct on the related endogenous construct. Based on predetermined hypotheses, all single-headed arrows are drawn to be tested. If there is more than one exogenous construct in the structural model, then a double-headed arrow can be used between all exogenous constructs to estimate the correlational effects. To prevent the multicollinearity problem in the model where there is a high correlation between two exogenous constructs, the study must assess the strength of the link between the exogenous constructs. If there is a correlation between a pair of exogenous constructs above 0.85, it indicates that constructs are highly correlated, which means the existence of multicollinearity problem (Kashif et al., 2015, 2016, 2017; Noor et al., 2015; Yusof et al., 2017; Aziz et al., 2016; Mohamad et al., 2016, 2017, 2018).

The results of performing SEM is presented in figure 3 for the Standardized Regression Path Coefficients between constructs, and figure 4 for the Regression Path Coefficients between constructs.

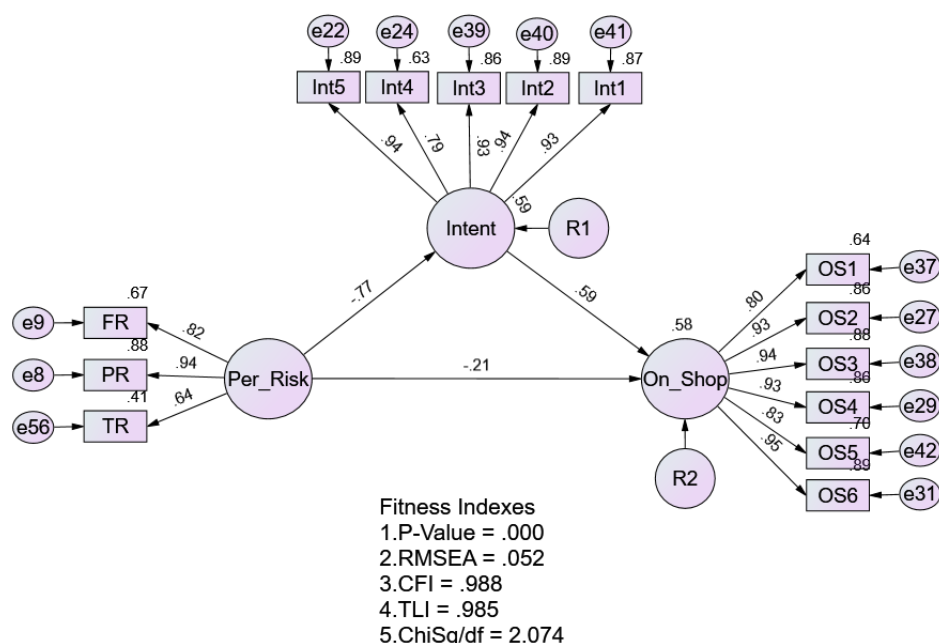


Figure 3: The Standardized Regression Path Coefficient between constructs in the model. The interpretation of R2 for the model (figure 3) is presented in Table 2.

Table 2

The interpretation of R2

Endogenous Construct	R2	Conclusion
Intention	0.59	The perceived risk construct manages to explain about 0.59 percent of intention.
Actual online shopping behavior	0.58	The perceived risk and intention constructs manage to explain about 0.58 percent of actual online shopping behavior.

For all constructs, figure 4 shows the regression path coefficients.

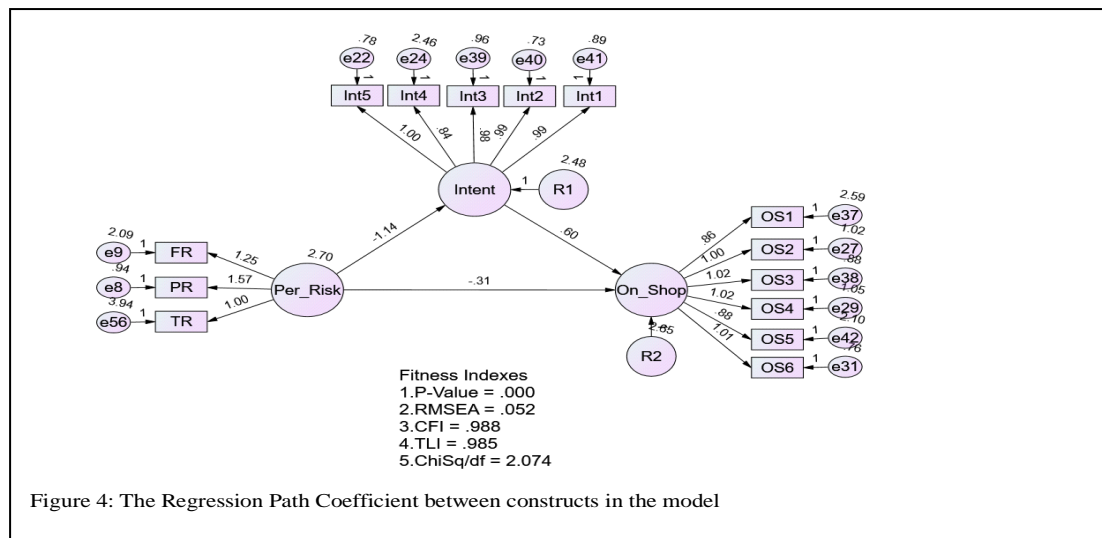


Figure 4: The Regression Path Coefficient between constructs in the model

Table 3 present the results of regression path coefficient from the exogenous constructs on the endogenous construct.

Table 3

*The Regression Weight and its Significance*

		Estimate	S.E.	C.R.	P	Result
Intent	<--- Per_Risk	-.1140	.091	-12.554	***	significant
Onl_Shop	<--- Per_Risk	-.312	.094	-3.313	***	significant
Onl_Shop	<--- Intent	.603	.062	9.718	***	significant

Table 4

*The Hypothesis Testing for Direct Effect Hypothesis*

	Hypothesis Statement	Result
H1	There is a negative relationship between perceived risk and intention.	Supported
H2	There is a negative relationship between perceived risk and actual online shopping behavior.	Supported
H3	There is a positive relationship between intention and actual online shopping behavior.	Supported

## Mediator Testing

Table 5

*The Hypothesis Testing for Mediation Effect of intention*

H4	Intention mediates the relationship between perceived risk and actual online shopping behavior.
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The study utilized the method suggested by Awang (2015), Awang et al. (2015, 2018), and Kashif et al. (2015, 2016) for testing the mediation effects in the model. Figure 5 presents the procedure for testing the mediator. The values in Figure 5 are obtained from the output of standardized path coefficients.

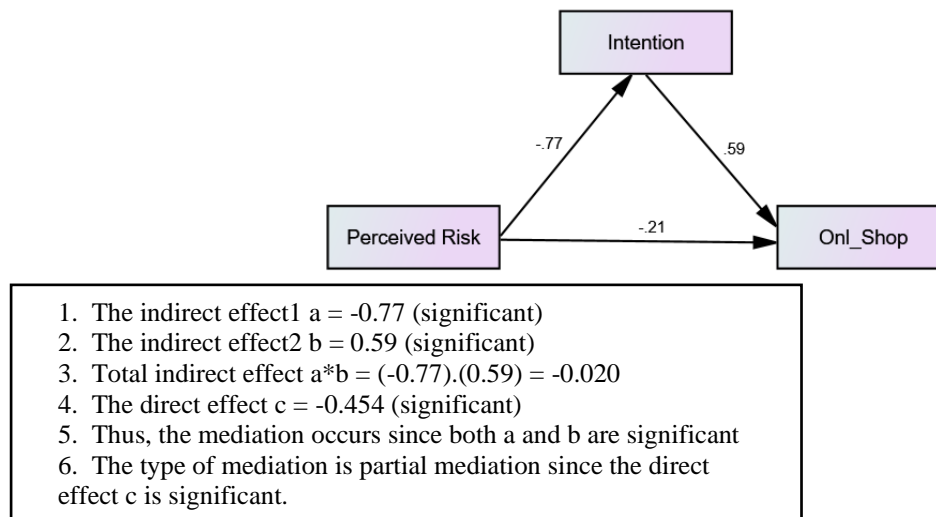


Figure 5: The mediation testing procedure

### Moderator Testing

In this study, experience was examined as a moderator on the relationship between perceived risk and actual online shopping behavior. With latent constructs, using interaction terms is not practical for standard modeling procedure as it would cause model convergence problems and distortion of standard errors. Ultimately, it creates a misfit model, and the procedure stops (Awang, 2015).

Alternatively, Multi-Group CFA was proposed by (Awang, 2015) as an alternative approach to evaluate the influence of the moderator variable. The researcher needs to define the path of interest where to assess the moderator variable. This specific path will be constrained with parameter = 1, and the model is called the constrained model. Then, the procedure will estimate two models separately. The first one is the constrained model, and the other one is the unconstrained model. The data were divided into two groups based on their experience level (i.e., low and high level of experience). The moderation is significant if the difference in Chi-Square value between the constrained and unconstrained model is more than 3.84 (Awang, 2015).

Starting with Low experience group, the researcher assigns a constraint parameter to the chosen path of interest equal to "1" as presented in figure 6. This model is given a new name as the constrained model. Then, using the same model, remove the constraint parameter in the path, as presented in Figure 7. This model is given a new name as the unconstrained model.

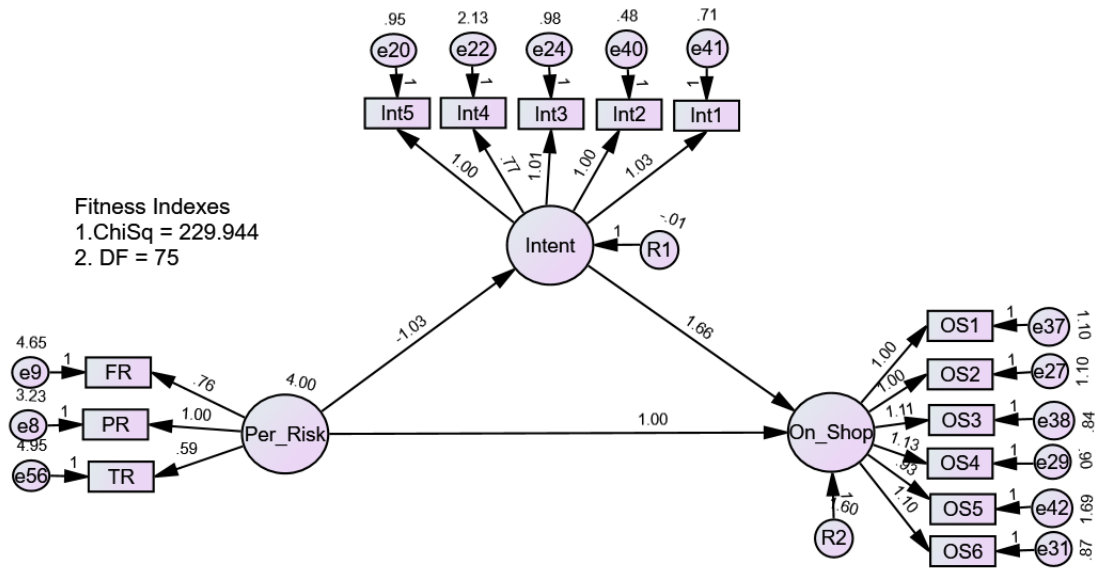


Figure 6: Low Experience and constrained model

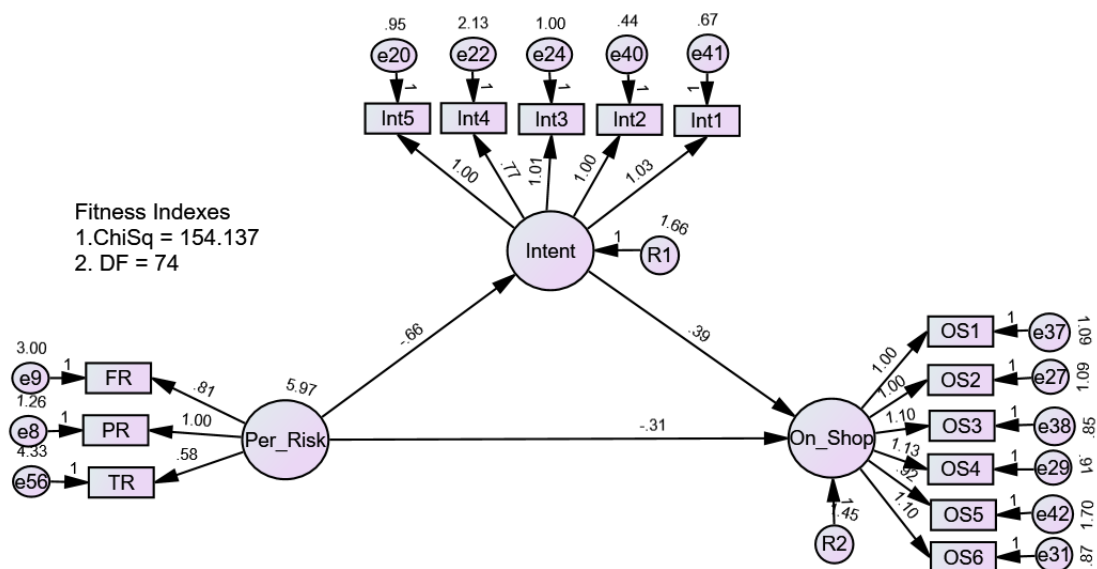


Figure 7: Low Experience and unconstrained model

The same procedure was repeated for the High experience group. Figure 8,9 present the output for the constrained and unconstrained model.

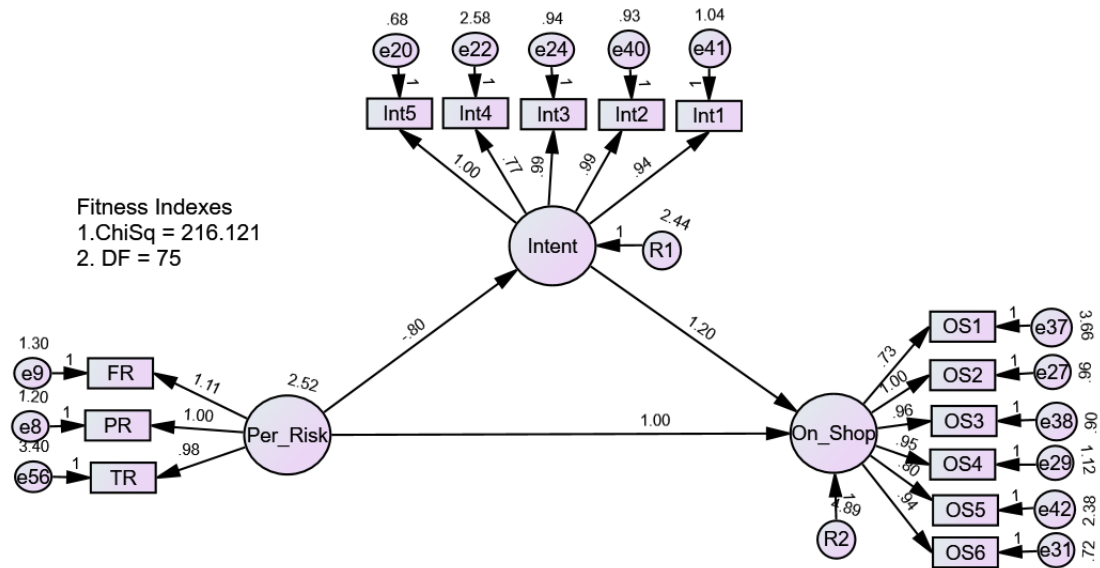


Figure 8: High Experience and constrained model

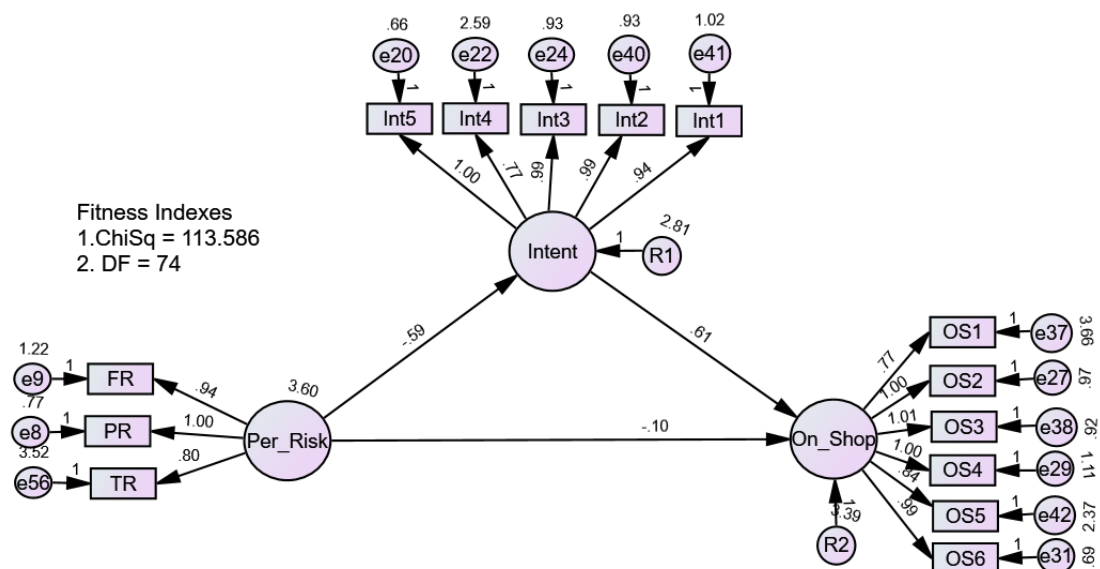


Figure 9: High Experience and unconstrained model

Based on table 6, which shows the results for both groups. We can conclude that there is a significant effect of the moderator experience on the relationship between perceived risk and actual online shopping behavior. Thus hypothesis 5 is supported.

Table 6

*Results Showing the Moderator Effect of experience*

Independent Variable	Dependent Variable	Moderator Variable			
Perceived Risk	Actual online shopping behavior	Low experience		High experience	
		Constrained Model	Unconstrained Model	Constrained Model	Unconstrained Model
		229.944	154.137	216.121	113.586
		Chi-Square Difference = 75.807		Chi-Square Difference = 102.535	
		Degree of freedom difference 75-74 = 1		Degree of freedom difference 75 – 74 = 1	

### Discussion and Conclusion

Theoretically, this study has confirmed four essential findings. Firstly, perceived risk has a negative effect on consumers' intention. This result is consistent with several previous studies such as (Zhao et al., 2017) and (Ahmed & Akhlaq, 2015). Secondly, perceived risk has a negative effect on actual online shopping behavior. This finding is in line with (Zhang et al., 2012). Thirdly, the intention has a positive effect on actual online shopping behavior, which is consistent with (Al-Jabari, 2013; Jamil, 2012). Fourthly, intention showed partial mediation effect in the relationship between perceived risk and actual online shopping behavior.

Therefore, it is recommended that online retailers must promote company focus towards risks associated with online shopping. Moreover, online retailers are required to provide interactive online communication services to handle customer queries, hence, reducing fear to order online.

The finding also revealed that intention partially mediates the relationship between perceived risks and actual online shopping behavior. This finding implies that perceived risks may have an instant effect on online shopping behavior by restricting customers to avoid online shopping. However, perceived risks can develop a negative online purchase intention, which in the future may restrict customers to engage in online shopping.

Moreover, the finding revealed that there is a significant moderating influence of experience on the relationship between perceived risks and actual online shopping behavior. It means that the greater the customers have experience of online shopping, the less of impact of perceived risks on actual online shopping.

Online retailers are suggested to perform the following tasks to reduce the risks and improve the online shopping in Jordan. First, they can provide detailed information about their products and services and security policies. Second, they are suggested to develop confidence in the customers by acknowledging the risks and offering return policy of the unfitting products. Also, online retailers need to set competitive prices in relation to other e-commerce websites. Moreover, e-retailers are required to offer services of guarantee and warranty to reduce the financial risk. Finally, online retailers can reduce the time risk by limiting the time between the order of the product and final delivery. Alongside quick delivery, online retailers must be quick in providing money back for faulty and damaged products.

### Theoretical Implication

This paper explores the contribution of perceived risks to online shopping, thus narrowing the gap in the literature on online shopping behavior regarding perceived risks in Jordan. From a risk perspective, the paper introduces further insights into the perception of consumers' online shopping behavior in Jordan. The findings of the study have deepened the knowledge of online retailing in Jordan. Other developing countries can be studied further the model emerged from this research to have an extensive consideration of the factors inducing online purchase.

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