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## DETERMINANTS OF ONLINE BEHAVIOR AMONG JORDANIAN CONSUMERS: AN EMPIRICAL STUDY OF OPENSOOQ

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### ABSTRACT

Aim/Purpose	This study identifies the elements that influence intentions to purchase from the most popular Arabic online classifieds platform, OpenSooq.com.
Background	Online purchasing has become popular among consumers in the past two decades, with perceived risk and trust playing key roles in consumers' intention to purchase online.
Methodology	A questionnaire survey was conducted of Internet users from three Jordanian districts to investigate how they used the OpenSooq platform in their e-commerce activities. In total, 202 usable responses were collected, and the data were analyzed with PLS-SEM for hypothesis testing and model validation.
Contribution	Though online trading is increasingly popular, the factors that impact the behavior of consumers when purchasing high-value products have not been adequately investigated. Therefore, this study examined the factors affecting perceived risk, and the potential impact of privacy concerns on the perceived risk of online smartphone buyers. The study framework can help explore online behavior in various situations to ascertain similarities and differences and probe other aspects of online buying.
Findings	Perceived risk negatively correlates with online purchasing behavior and trust. However, privacy concern and perceived risk, transaction security and trust, and trust and online purchasing behavior exhibited positive correlations.
Recommendations for Practitioners	Customers can complete and retain online purchases in a range of settings illuminated in this study's methods and procedures. Moreover, businesses can manage their IT arrangements to make Internet shopping more convenient and build processes for online shopping that allow for engagement, training, and ease of use, thus improving their customers' online purchasing behavior.

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Recommendations for Researchers	Given the insight into the understanding and integration of variables including perceived risk, privacy issues, trust, transaction security, and online purchasing behavior, academics can build on the groundwork of this research paradigm to investigate underdeveloped countries, particularly Jordan, further.
Impact on Society	Understanding the characteristics that influence online purchasing behavior can help countries realize the full potential of online shopping, particularly the benefits of safe, fast, and low-cost financial transactions without the need for an intermediary.
Future Research	Future research can examine the link between online purchase intent, perceived risk, privacy concerns, trust, and transaction security to see if the findings of this study in Jordan can be applied to a broader context in other countries.
Keywords	online purchasing, trust, transaction security, perceived risk, privacy concern

## INTRODUCTION

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Contemporary shopping behavior has evolved and is currently more interconnected (Al-Adwan & Sammour, 2021). For the past 20 years, e-commerce platforms have been used for the purchase of various items. Purchasing through e-commerce platforms is faster and more convenient than shopping from brick-and-mortar stores. The change in consumer purchasing preferences from physical store purchases to online purchases has led to an increase in the volume of online transactions (Almajali, 2021a, 2021b; Sahney et al., 2013; Trawnih et al., 2021). However, trust in online transactions has been a major concern and is the main disadvantage of e-commerce. According to Ang and Lee (2000), websites that fail to gain the trust of consumers fail to trigger online purchase intentions.

Various studies have highlighted the need for awareness and management of the dynamics of consumer behavior (Abuein & Shatnawi, 2019; Coulter & Coulter, 2002; Morgan & Hunt, 1994; Mukherjee & Nath, 2003; Roggeveen & Sethuraman 2020), measured through in-depth examination (Almajali et al., 2021; D'Alessandro et al., 2012). Hsin Chang and Wen Chen (2008) report a reciprocal dependence between perceived risk and trust. According to the authors, both constructs affect online purchase intention. Moreover, they are the main e-commerce drivers, encompassing trust-building and the perceived risk management of purchasing (Belanger et al., 2002; Biswas & Biswas, 2004; Hammouri & Abu-Shanab, 2017; Pina et al., 2019; Raji et al., 2020; Schlosser et al., 2006).

Online stores do not allow buyers to physically examine goods, and buyers cannot interact with service providers in-person. These situations increase the risk associated with this type of purchase. Additionally, Kim and Montalto (2002) and Bauerly (2009) identified potential security issues and privacy concerns regarding online transaction information, all of which may diminish the probability of online purchases by consumers. Accordingly, eBay, a popular online purchase website, had addressed issues related to consumers' trust during its initial years of establishment (Djafarova & Bowes, 2021; Goldsmith & Wu, 2006; Vieira et al., 2020). Trust among online consumers remains a concern because approximately 6.25% of all e-transactions are susceptible to fraud (Bauerly, 2009). Thus, to mitigate such a risk, Van der Heijden et al. (2003) highlighted consumers' reliance on information furnished by sellers or the policies provided by traders that assure the security of consumers' personal information and safeguard their privacy. Hence, an online retailer's guarantee is a primary way of establishing consumers' trust (Schlosser et al., 2006).

Despite the prevailing issues, online purchasing is progressively becoming acceptable. Coppola (2021) studies global online purchases and reports that approximately 875 million people worldwide make online purchases. The purchases include items with low risk and easy branding, such as books (44%); accessories, clothing, and footwear (36%); airline tickets or reservations (32%); and electronic devices

(27%). As per Euromonitor International (2020), the increase in global online sales was expected to reach US\$356.1 billion by the end of 2021 from US\$91.4 billion in 2006.

Books, sporting goods, cosmetics, CDs, and online tickets are commonly purchased online (Almajali et al., 2021; Bart et al., 2005; Dillon & Reif, 2004; Jarvenpaa et al., 1999; Kim & Montalto, 2002; Van der Heijden et al., 2003). However, online purchase of products that are more complicated, costlier, and riskier, such as smartphones, has not been adequately studied. Even though online trading is gaining increasing popularity, few studies examine the factors that impact the behavior of consumers when purchasing high-value products. Furthermore, purchasing patterns should be examined to help sellers foster trust while decreasing the perceived risk among buyers. Therefore, this study examines the factors affecting perceived risk and the potential impact of privacy concerns on the perceived risk of online smartphone buyers. It ascertains whether transaction security influences trust. The study develops a conceptual model utilizing several theories of online consumer behavior to probe the link between perceived risk, trust, and online purchasing behavior of smartphone buyers.

In summary, this study examines online purchasing intention and its relationship with perceived risk, privacy concerns, trust, and transaction security. OpenSooq was targeted for investigation given that it has the largest market share in Jordan. Top e-commerce sites and apps in Jordan have reported that OpenSooq caters to 20 million visitors per month (Paracha, 2021).

## **THEORETICAL FOUNDATION**

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The theory of planned behavior (TPB) was applied in this study. As an expansion of the theory of reasoned action (TRA) by Ajzen and Fishbein (1975), TPB has been mainly used in addressing the shortcomings of the latter model. According to Ajzen (1991), the use of TPB is appropriate when the researcher wants to address behaviors that an individual can control only partially.

TPB, like TRA, has the overarching goal of predicting and explaining human behavior in specific situations. Behavioral intention, according to TPB, explains the behavior. It captures the motivating elements that drive behavior, providing an indication of how much effort the individual is willing to exert to exhibit that behavior. In comparison to TRA, TPB has new constructs such as perceived risk, trust, privacy issues, and transaction security. TPB is among the most widely used consumer behavior models in the literature, and has been applied to online buying behavior extensively (H. Lim & Dubinsky, 2005; Pavlou & Fygenon, 2006; Song & Zahedi, 2005).

According to extant consumer behavior theories, buyer behavior is impacted by personal, cultural, social, and psychological factors (Al-Adwan et al., 2019; Almajali et al., 2022; Schiffman et al., 2011). Several studies indicate two psychological theories that could elucidate the level of online purchases based on perceived risk and trust (Jarvenpaa et al., 1999; Khoa, 2021; Van der Heijden et al., 2003; Van Slyke et al., 2002). Jarvenpaa et al. (1999) report that perceived risk and trust are antecedents of buyers' willingness to purchase, while Kimery and McCord (2002) find these constructs to be antecedents of buyers' intention when purchasing items, such as footwear and clothing, online.

### ***PERCEIVED RISK AND CONSUMER BEHAVIOR***

In the marketing literature, perceived risk is first mentioned by Bauer (1960), where consumer behavior includes risk because the action of a consumer can lead to some unanticipated and undesirable consequences. The inclusion of the perceived risk construct in studies involving consumer behavior is a common practice (Chaudhuri, 1998). The same can also be stated for studies on organizational (Doney & Cannon, 1997) and online consumer (Archer & Yuan, 2000; H.-Y. Ha, 2002) behavior. This construct has also been included in studies focusing on various product categories. Accordingly, Mitchell (1999) listed grocery and food items as categories most commonly investigated by researchers (Gifford & Bernard, 2006; B. T. W. Wu et al., 1984). Moreover, studies that examined products linked to undesirable health outcomes like tobacco also generally include the construct of perceived risk (Lyna et al., 2002).

Perceived risk is integral to online consumer behavior. Nonetheless, as per Miyazaki and Fernandez (2000), studies on this topic have been generally restricted to a small number of product classifications; therefore, it is challenging to generalize the outcomes. Moreover, the examination of the role of perceived risk within the context of online purchases would usually involve four product categories: books (Dillon & Reif, 2004), computer software, music, and CDs (Miyazaki & Fernandez, 2000; Van der Heijden et al., 2003). Notably, several new research areas involving perceived risk have emerged, including website features, such as privacy and security practices. These areas did not previously exist in traditional methods of purchasing (Al-Adwan & Al-Horani, 2019; Kim & Montalto, 2002; Miyazaki & Fernandez, 2000). Studies have indicated that online purchase of high-risk products is less likely (Jarvenpaa et al., 1999; Miyazaki & Fernandez, 2000). Hence, the construct of perceived risk has been commonly utilized to study offline and online purchasing behavior for various product categories. This construct is, thus, versatile and can be applied to numerous domains, such as examining smartphone purchasing behavior. Notably, past studies on the construct of perceived risk in offline and online purchasing do not consider smartphones.

### ***PERCEIVED RISK IN ONLINE PURCHASES***

In offline purchasing, a certain level of risk is perceived by buyers; however, as highlighted by Doolin et al. (2005), a buyer is usually more likely to associate risk with online purchasing. Juan Tan (1999) attributed risk in an online transaction with the failure of the buyer to inspect and compare the quality of a product at hand. The risk has also been linked to the provision and compromise of personal information on the buyer's side (Liebermann & Stashevsky, 2002). Jarvenpaa and Todd (1996) indicate that prior studies on online purchasing did not consider the notion of perceived risk. Pires et al. (2004) added that this construct was particularly ignored in buyer behavior studies, attributed to the insignificance of perceived risk toward online purchasing during the 2002-2004 period.

The perceived risk of buyers significantly impedes e-commerce growth (Awad, 2004; Gu et al., 2021). The extensive usage of the construct of perceived risk in the literature on online and offline purchasing has been observed, with two situations being frequently stated. The definition of perceived risk appears to vary across different studies. For example, Miyazaki and Fernandez (2000) study consumers' Internet experience by focusing on issues associated with privacy and security during online purchasing. They mentioned perceived risk as a risk related to the Internet experience of buyers. They also expressed their concerns about the issues of privacy and security in online purchases.

### ***TRUST AND CONSUMER BEHAVIOR***

Trust can be perceived as a feeling of confidence toward another party (Shimp & Bearden, 1982). It is a major consideration for a buyer in their purchase decisions. Similar to perceived risk, trust is a versatile construct as it is usable in different disciplines (Morgan & Hunt, 1994). Further, it is negatively related to perceived risk. Pertinently, Bord and O'Connor (1990) consider the trust variable as a negative antecedent to the uncertainty level and perceived risk of the buyer. Rotter (1967) accordingly described the notion of trust as the basic anticipation of a person regarding the reliability of the promises given by the co-exchanger. Moreover, trust is an outcome of a seller's reliability and integrity, involving the criteria of quality evaluation, such as accountability and honesty (Dwyer & Lagace, 1986). Morgan and Hunt (1994) explain the notion of trust as the framework of belief in a seller's integrity and reliability.

Trust can be regarded as a strong credibility domain between buyers and sellers that represents the dependability of the promises made by the seller (Al-Adwan, 2019; Almajali & AL-Sous, 2021; Doney & Cannon, 1997). Similarly, Gao et al. (2002) construed trust as a notion underpinned by reliability and integrity. In the context of online trading, trust is perceived as a core element by customers. Brannigan and De Jager (2003) incorporate the construct of trust in online transactions and define it as a mixture of confidence in online trade and sellers. With a focus on shopping, Ba (2001) suggests that trust signifies one common theme: confidence in performing online purchases. Further,

Cowcher (2001) indicates that within the online purchasing context, trust is generally regarded as online sellers' guarantee of the delivery of products or services of high quality to online purchasers. Hence, online sellers' guarantee is vital for fostering buyers' trust in online purchases.

## **RESEARCH MODEL AND HYPOTHESES**

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### ***PERCEIVED RISK AND ONLINE PURCHASING BEHAVIOR***

Perceived risk and trust show a negative relationship (Eastlick et al., 2006; Kimery & McCord, 2002). Thus, greater trust results in lower perceived risk. Further, Jarvenpaa et al. (1999) find that higher trust toward online sellers results in a decreased perceived risk, which results in an increased willingness of buyers to make online purchases of the sellers' products or services. Similarly, Van der Heijden et al. (2003) find that a decrease in perceived risk increases trust and the positive attitude of buyers toward online purchasing, thereby increasing the intention or willingness of buyers to purchase a given product or service online. Vijayarathy and Jones (2000) and Yeung and Morris (2006) find a direct negative effect of perceived risk on the likelihood and intention for online purchases. Additionally, perceived risk impacts online purchase decisions (Dillon & Reif, 2004) and online purchasing volume (Miyazaki & Fernandez, 2000).

The concerns of buyers regarding information security and the association of such concerns with perceived risk have not been adequately explored, and existing studies show mixed results. For instance, Miyazaki and Fernandez (2000) find a negative association between system security and the rate of online purchases. Meanwhile, Otuteye (2002) reports that inadequate provision of transaction security information is a major factor inducing reluctance toward online purchases. Doolin et al. (2005) indicate that buyers associate online purchasing with greater risk. Juan Tan (1999) states that online transaction risk might be caused by a buyer's failure to check and compare the quality of the product. Liebermann and Stashevsky (2002) attributed this problem to the provision and compromise of personal information.

Further, prior studies find mixed results regarding the link between perceived risk and online purchase intention. For example, Gefen et al. (2003) highlight that perceived risk has no impact on online shoppers' purchase intentions. However, Tham et al. (2019) and T. Ha et al. (2020) find that perceived risk has a detrimental impact on online purchase intention.

Prior studies on online purchasing do not consider the role of perceived risk (Parida et al., 2019). Pires et al. (2004) note that early studies of buyer behavior disregard the notion of the perceived risk in online purchasing, likely attributed to the insignificance of the perceived risk in online purchasing. In contrast, various studies find that the perceived risk of buyers is a hurdle in e-commerce advancement (Awad, 2004; Miyazaki & Fernandez, 2000).

An in-depth empirical investigation of these issues in the smartphone industry could potentially affirm the direct impacts of perceived risk and trust on online purchasing behavior. Thus, the following two hypotheses were formulated:

H1: Perceived risk negatively impacts online purchasing behavior.

H2: Perceived risk negatively impacts trust in online purchasing behavior.

### ***PERCEIVED RISK, TRUST, AND THEIR ANTECEDENTS***

Perceived risk is associated with privacy (Doolin et al., 2005). However, in online purchase, it remains unclear whether privacy concerns are antecedents of perceived risk or if they merely comprise a broader definition of the construct (perceived risk) in the context of online purchasing. Several studies (Gil-Cordero et al., 2020; Hoffman et al., 1999; Kim & Montalto, 2002; Sun et al., 2020; Teltzrow

& Kobsa, 2004; Yoo et al., 2020) report great concern among buyers regarding privacy threats. Furthermore, others report online privacy as a major hindrance to buyers' acceptance of online trading (Gauzente, 2004; Hoffman et al., 1999).

Several researchers (Belanger et al., 2002; Chellappa & Pavlou, 2002; Luo, 2002; Metzger, 2004) examine buyers' concerns about information privacy in the execution of online purchasing and find that when privacy concerns are addressed, trust in online purchases can increase as perceived risk decreases. Notably, some studies (e.g., Miyazaki & Fernandez, 2000) present contradictory evidence on whether privacy concerns increase the perceived risk in online purchases, warranting further investigations.

Privacy threats are a great concern among online buyers (Teltzrow & Kobsa, 2004), and references to such threats in online purchasing can be observed in many studies (Gauzente, 2004; Hoffman et al., 1999; Milne & Culnan, 2004). These concerns remarkably reduce buyers' acceptance of online trading. Studies on buyers' concerns regarding trust in online purchasing conclude that such trust can be promoted when privacy concerns are addressed, inducing a decrease in the perceived risk of a purchase (Bart et al., 2005; Belanger et al., 2002; Chellappa & Pavlou, 2002; Metzger, 2004).

Yoon (2002) and Wang et al. (2004) find that trust is linked to confidence in transactions or a cue-based signal, as opposed to a concept grounded in a relationship. Schlosser et al. (2006) view trust as limited to the competency of protecting transactions and delivering products and services in e-commerce. The issues associated with privacy include information security or breach threats from worms, viruses, and online database hacking (Rohm & Milne, 1998). Notably, for some scholars, these are major issues requiring individual examination (Belanger et al., 2002).

In e-commerce, transaction and product delivery safety appear to remarkably affect buyers' trust (Schlosser et al., 2006; I. L. Wu et al., 2020). Cowcher (2001) reports that the lack of international regulations to safeguard online trading and transactions has raised consumers' wariness and fear of Internet fraud. Meanwhile, Schlosser et al. (2006) indicate that the presence of a robust transaction security policy could increase shoppers' trust in online purchasing, with no worries over transaction risks. Tsiakis and Sthephanides (2005) report that the use of an appropriate secure payment system for online transactions increases consumer perceived trustworthiness. Therefore, the study proposes the following hypotheses:

H3: Concerns toward sellers' privacy practices increase the perceived risk of online purchasing.

H4: Transaction security positively affects trust in online purchasing behavior.

### ***RELATIONSHIP BETWEEN TRUST AND ONLINE PURCHASING BEHAVIOR***

Prior related works have reported a positive relationship between trust and the intention to purchase online (Al-Adwan & Kokash, 2019; Eastlick et al., 2006; Gefen, 2000; Hassan et al., 2020; Mahmoud et al., 2018; Shim et al., 2004; Yoon, 2002). In online purchasing, trust is a crucial element (Al-Adwan, 2018; Brannigan & De Jager, 2003; Eastlick et al., 2006; Gao et al., 2002). Cowcher (2001) notes that trust encompasses the promise and assurance made by online sellers. Specifically, these sellers seek to deliver products or services of high quality to online buyers. Therefore, this study proposed the following hypotheses:

H5: Trust positively impacts online purchasing behavior.

### ***ONLINE SHOPPING VOLUME***

Statista (2019) reports that the global digital population is expected to reach around 4.57 billion active Internet users by April 2020, with 3.81 billion using social media. Countries like China, India, and the USA have become major users of the Internet (Clement, 2020). Jordan's Internet user population is 8.7 million (Almajali & Masa'deh, 2021; Statista, 2019).

## STUDY MODEL

Figure 1 depicts the study model, along with the relationships between the relevant constructs. Accordingly, several factors influence risk perception and privacy concerns, and transaction security is an antecedent of trust. Perceived risk negatively impacts trust and online purchasing behavior, while trust favorably impacts online purchases.

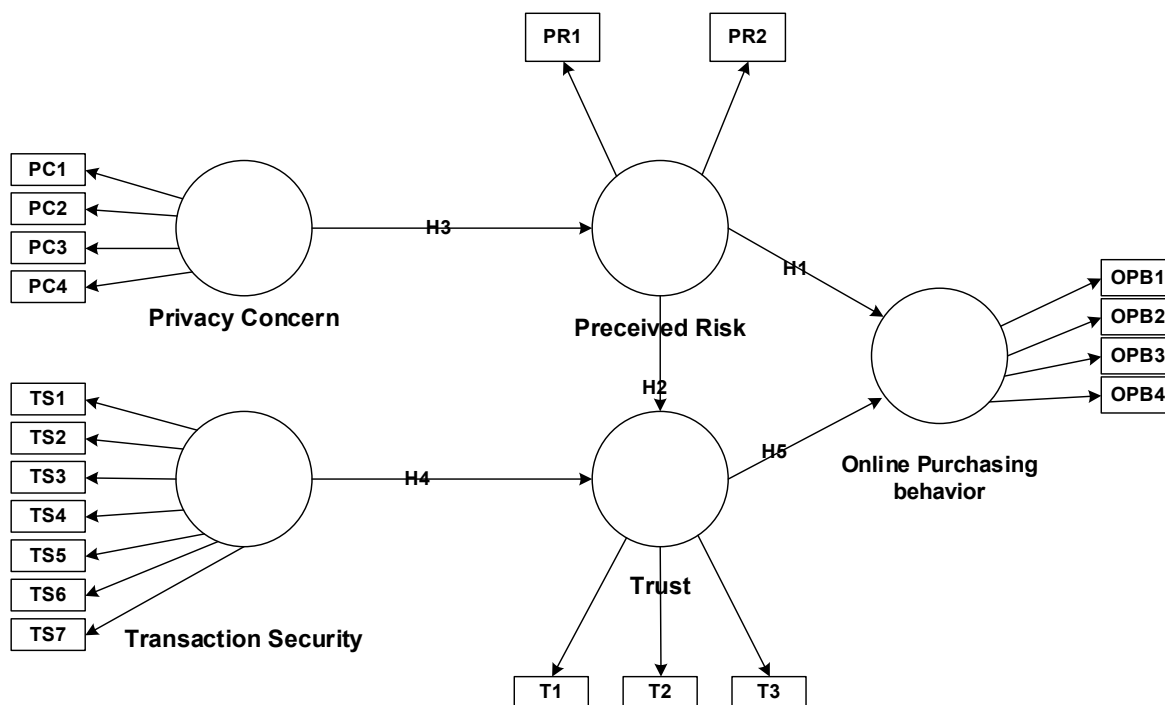


Figure 1. Study framework

## RESEARCH METHODOLOGY

The study conducted a survey at the beginning of July 2021, and completed questionnaires were returned by early October 2021. It employed convenience sampling of Internet users from the Amman, Irbid, and Al-Zarqa areas. The demographic information provided by the respondents included age, gender (male or female), education, and profession. The details of the respondents are as follows: 62% were between 18 and 29 years old, with the least represented age group being persons aged 30 years and older. Regarding gender, 57% were men, and 43% were women. Most respondents had a bachelor's degree (66%), 27% had completed upper secondary school, and 7% had completed trade school.

## DATA ANALYSIS

The collected data were analyzed using Smart PLS 3.2.8. This software is a statistical instrument appropriate for partial least squares structural equation modeling (PLS-SEM) (Davari & Rezazadeh, 2013), and has been used by scholars in various domains, including management information systems, human resource management, and marketing (Hair et al., 2012). In SEM, two steps of analysis are used: the first (second) step involves measurement (structural) model assessment. Thus, the study evaluates the relationship between independent and dependent variables and their latent constructs. PLS can be used in variance analysis via Smart PLS (Vinzi et al., 2010).

This study employed the PLS-SEM method to analyze the research model with Smart PLS, following Ringle et al. (2015). The two-stage analytical technique was applied, as proposed by Anderson and

Gerbing (1988) and Hair et al. (2017). First, the measurement model was assessed, involving the evaluation of factor loading, average variance extracted, convergent validity, discriminate validity, and composite reliability. It was followed by the structural model assessment (R-square and testing of hypothesized relationships). The measurement model displays the details of the measurement of each construct, while the structural model displays the details of the interlinkages of the variables in the model (Hair et al., 2017; Hair et al., 2019). PLS was chosen as a statistical method mainly because it allows for synchronized analysis of measurement and structural models, resulting in more truthful approximations (Barclay et al., 1995).

**QUESTIONNAIRE DESIGN**

A field survey was constructed for Jordanian smartphone users, and a questionnaire was employed to gather data. The questionnaire was prepared according to the factors and measurement items displayed in Table 1. The variable items in the questionnaire were close-ended questions with a seven-point scale to achieve a more accurate level of agreement from the respondents. The anchors of the scale ranged from 1 representing “strongly disagree” to 7 representing “strongly agree,” with 4 as the middle value representing “neither agree nor disagree.” The privacy concern (PC) variable was gauged via four items from Dinev et al. (2006). Transaction security (TS) was measured using seven items from Chellappa and Pavlou (2002). Perceived risk (PR) was evaluated through two items from Miyazaki and Fernandez (2000). Trust (T) was measured using three items sourced from Miyazaki and Fernandez (2000), and online purchasing behavior (OPB) was measured using four items from Forsythe et al. (2006), George (2004), and Swinyard and Smith (2003).

**Table 1. Measurements of factors**

<b>Factor</b>	<b>Code</b>	<b>Measurement Dimensions of Factors</b>
Online purchasing behavior (Forsythe et al., 2006; George, 2004; Swinyard & Smith, 2003)	OPB1	Using the Internet for online shopping is easy
	OPB2	When I make a purchase, my friend’s and family’s opinion is important to me
	OPB3	I will have no problem shopping online if I know that my friends and relatives are doing it without any problems
	OPB4	I would not shop online if the webpage download time is slow
Perceived risk (Miyazaki & Fernandez, 2000)	PR1	I feel that it is less risky to buy smartphones using the Internet today
	PR2	Buying a smartphone using the Internet is safe
Trust (Al-Adwan et al., 2020; Miyazaki & Fernandez, 2000)	T1	I feel confident buying smartphones using the Internet
	T2	I feel wary of buying a smartphone using the Internet
	T3	To date, buying smartphones online tends to be reliable
Privacy concern (Dinev et al., 2006)	PC1	I am concerned that the information I submit on the Internet could be misused
	PC2	I am concerned that a person can find private information about me on the Internet
	PC3	I am concerned about submitting information on the Internet, because of what others might do with it



Factor	Code	Measurement Dimensions of Factors
	PC4	I am concerned about submitting information on the Internet because it could be used in a way I did not foresee
Transaction security (Chellappa & Pavlou, 2002)	TS1	I have confidence in the security of my transaction with this store
	TS2	I am confident that the private information I provide during my transaction with this store will only reach this store
	TS3	I believe inappropriate parties may deliberately view the information I provide during my transaction with this store
	TS4	I believe the information I provide during my transaction with this store will not be manipulated by inappropriate parties
	TS5	I believe that inappropriate parties may store the information I provide during my transaction with this store
	TS6	I believe this store will not expose the information, that I provide during my transaction, to inappropriate parties
	TS7	I cannot view all information related to my transactions

Three Jordanian smartphone users and two academic professors specializing in management information systems were among the pilot test participants. With senior authors present, these participants completed the survey. They provided feedback through comments, covering the questionnaire contents and its general appearance. Based on feedback, the survey questionnaire was accordingly amended. Jordan was selected as the country for data collection because of the potential impact of the research in the country (Jordan), especially when conducted in various sectors (e.g., Alnsour et al., 2019), paving the way for future research opportunities.

Data collection was conducted in three large districts in Jordan. The survey administrators explained the research purpose and instructions for answering the questionnaire to ensure robust results. After analyzing the questionnaires, 13 had many missing values and unreliable responses with repetitive patterns. They were excluded accordingly, leaving 202 valid questionnaires with a response rate of 62%. The study used IBM SPSS 23.0 for the descriptive analysis (frequencies) of the demographic characteristics of the study respondents. As noted, most respondents were male (57%) and aged between 18 and 29 years (43%). Moreover, most had completed their bachelor's degree (66%); the others had completed upper secondary (27%) and trade (7%) schools.

## RESULTS

### *ASSESSMENT OF MEASUREMENT MODELS*

The research framework is typified by first-order reflective elements. Accordingly, the measurement model was used to determine convergent validity, item loadings, average variance extracted (AVE), and composite reliability (CR) (Table 2). Most item loadings exceeded 0.70, which is the value recommended by Hair et al. (2017). Hence, items TS5 and TS6 with values of 0.536 and 0.592, respectively, were deleted as they were below this criterion value. The attained AVEs ranged from 0.574 to 0.791.

These values were larger than the threshold suggested by Hair et al. (2009) of 0.5. The obtained CR values ranged from 0.843 to 0.909. Based on Hair et al. (2009), these values were considered acceptable. Finally, the study employed the variance inflation factor (VIF) test to investigate multi-collinearity (Kock, 2015). From Table 2, the VIF value for all constructs is less than 5, indicating no multi-collinearity.

**Table 2. Results of the measurement model**

Constructs	Item Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted	VIF
Online Purchasing Behavior	OPB1	0.748	<b>0.843</b>	<b>0.574</b>	
	OPB2	0.810			
	OPB3	0.707			
	OPB4	0.763			
Perceived Risk	PR1	0.881	<b>0.883</b>	<b>0.791</b>	<b>1.25</b>
	PR2	0.898			
Privacy Concern	PC1	0.861	<b>0.865</b>	<b>0.714</b>	<b>2.44</b>
	PC2	0.894			
	PC3	0.854			
	PC4	0.765			
Transaction Security	TS1	0.720	<b>0.826</b>	<b>0.877</b>	<b>2.10</b>
	TS2	0.723			
	TS3	0.872			
	TS4	0.746			
	TS7	0.770			
Trust	T1	0.777	<b>0.790</b>	<b>0.878</b>	<b>2.24</b>
	T2	0.855			
	T3	0.885			

The study evaluated the discriminant validity of the constructs through the criteria discussed in Fornell and Larcker (1981), and the attained values for the constructs demonstrate appropriate discriminant validity. Tables 3 report the results.

A second criterion was also considered, as per Henseler et al. (2015), using the heterotrait-monotrait (HTMT) ratio of correlations, which is a rigorous method in discriminant validity assessment. Accordingly, HTMT values greater than 0.85 (Ab Hamid et al., 2017) or 0.90 (Gold et al., 2001) denote discriminant validity. The values displayed in Table 4 demonstrate an adequate level of discriminant validity of the study's measurement model.

**Table 3. Discriminant validity using the Fornell and Larcker criterion**

Construct	Online Purchasing Behavior	Perceived Risk	Privacy Concern	Transaction Security	Trust
Online Purchasing Behavior	0.758				
Perceived Risk	-0.686	0.889			
Privacy Concern	-0.468	0.517	0.845		
Transaction Security	0.494	-0.555	-0.347	0.768	
Trust	0.639	-0.784	-0.560	0.558	0.840

**Table 4. HTMT test**

Constructs	Online Purchasing Behavior	Perceived Risk	Privacy Concern	Transaction Security	Trust
Online Purchasing Behavior	-				
Perceived Risk	0.840	-			
Privacy Concern	0.579	0.653	-		
Transaction Security	0.623	0.709	0.402	-	
Trust	0.831	0.808	0.680	0.680	-

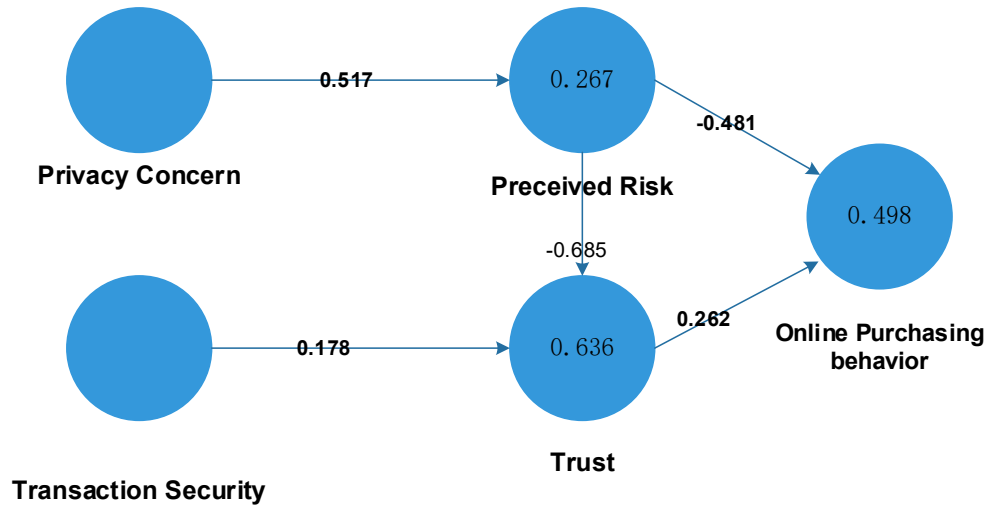
Finally, the study employed the model's fit indices to assess its performance (Henseler et al., 2016). The proposed model's fit indices in Table 5 show that the observed data and the hypothesized model are well-matched, indicating that the 20-item five construct model achieves a reasonable level of model fit.

**Table 5. Fit indices**

Index	Recommended value/condition	Actual value
SRMR - "Standardized Root Mean Square Residual"	<0.08	0.0375
NFI - "Normed Fit Index"	>0.9	0.946
d_ULS - "Unweighted Least Squares"	"d_ULS < bootstrapped HI 95% of d_ULS and d_G < bootstrapped HI"	0.322
d_G - "Geodesic Discrepancies"	95% of d_G"	0.353

**STRUCTURAL MODEL ASSESSMENT**

The phase after measurement model assessment was to assess the structural model. It involved finding the coefficient of determination, the significance level of the path coefficients (beta values), and the R-square signifying the total variance elucidated by the study variables (Hair et al., 2011). Accordingly, the latter value was 0.498; thus, nearly half of the variance in OPB was explained by PR and consumer trust. Figure 2 shows the path coefficients and R-square values.



**Figure 2. Path coefficients and R-Square**

The structural model assessment was followed by a bootstrapping procedure to examine the variable effects and significance. Accordingly, the results demonstrated a significant negative effect of PR on OPB and trust ( $\beta = -0.481$  and  $\beta = -0.680$ , respectively). Trust ( $\beta = 0.262$ ) had a significant effect on consumers’ purchasing behavior. Additionally, a strong relationship existed between PC and PR ( $\beta = 0.517$ ) and TS and consumer trust ( $\beta = 0.178$ ).

Table 6 displays the attained mean, standard deviation, t-value, and p-value for each path, which define the relationships supported in the study framework.

**Table 6. Structural model results**

Hypotheses	Sample Mean	Standard Deviation	t-value	p-value	Results
Perceived Risk -> Online Purchasing Behavior	-0.481	0.091	5.301	0.000	Supported
Perceived Risk -> Trust	-0.680	0.056	12.315	0.000	Supported
Privacy Concern -> Perceived Risk	0.517	0.053	9.723	0.000	Supported
Transaction Security -> Trust	0.178	0.056	3.207	0.001	Supported
Trust -> Online Purchasing Behavior	0.262	0.120	2.181	0.030	Supported

## DISCUSSION AND CONCLUSION

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At first glance, the obtained findings revealed that PR and the adoption of multichannel marketing methods to mitigate risk are critical elements in the prediction of OPB. The situation is demonstrated among high-risk and high-trust products like smartphones, thus corroborating the findings of Biswas and Biswas (2004), H.-Y. Ha (2004), and Featherman et al. (2010). They find that PR is a key barrier to online purchasing, supporting H1.

Furthermore, this study revealed a negative impact of PR on trust. A comparable finding is also reported in Tham et al. (2019) and T. Ha et al. (2020), supporting H2. The importance of PR over trust reflects Schlosser et al. (2006), who discover that risk is more substantial than trust when buyers are browsing online purposefully rather than aimlessly, as would be the case with smartphone customers.

Marketers must manage privacy issues, as they raise PR. Online marketers find that policies that safeguard privacy, those accredited by third parties such as governments, and policies that secure information provided by their clients are beneficial alternatives. As online privacy concerns favorably impact PR, H3 is supported. These findings support comparable results of prior online shopping behavior studies (Eastlick et al., 2006; Hassan et al., 2020; Van Slyke et al., 2002; Venkatesh et al., 2002).

From the results, TS positively impacts trust, supporting H4. This result accords with Tsiakis and Sthephanides (2005) and Schlosser et al. (2006), who find that a strong TS policy improves a shopper's trust in purchasing online, without the concerns about transaction risks.

Selecting an appropriate and secure payment mechanism for online transactions improves consumers' feelings of site trustworthiness. Furthermore, the study findings accord with N. Lim (2003), Zhang et al. (2019), and I. L. Wu et al. (2020), posting two linkages that connect perceived security and trust. Moreover, the research model revealed a positive association in investigating the impact of perceived security and trust.

Furthermore, trust had a substantial impact on online purchasing intention, supporting H5. This finding accords with those of Yoon (2002) and Shim et al. (2004), who discover that trust has a substantial impact on online shopping. Additionally, the lack of trust from a consumer perspective has been known to significantly impede Internet shopping (N. T. Ha & Nguyen, 2014; Perea y Monsuwé et al., 2004).

## THEORETICAL IMPLICATIONS

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From a theoretical standpoint, this study enriches the integration and understanding of variables such as PR, privacy concerns, trust, TS, and OPB. Therefore, the study furnishes the foundation to extend the research in developing nations, particularly Jordan, benefiting academics and practitioners. Moreover, the design and validation of an empirical model that explains how privacy concerns on the Internet influence the intention to shop online is the study's most important theoretical contribution. Given that this variable has been incorporated into explanatory models of online shopping that are essentially centered on trust or PR, the model bridges the literature gap matched to a certain sub-component of the function of PC in the e-commerce context. Furthermore, the published research focuses primarily on the direct effect of privacy concerns on OPB, failing to provide a sufficiently robust theoretical framework to explain how privacy concerns influence consumer behavior relevant variables that occur before pre-behavioral or behavioral constructs. Indeed, until this study, no study singled out privacy concerns as the sole exogenous component in an explanatory model of online purchase intention.

## PRACTICAL IMPLICATIONS

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The study recommends methods and procedures that can help customers complete and retain online purchases in a range of settings. The model clarifies how businesses can manage their IT to make Internet shopping more convenient and build processes and procedures for online shopping that allow for engagement, training, and ease of use. Furthermore, the framework can be used alongside other e-commerce platforms like Lazada and Shopee, Zalora, to investigate the trust and purchase intent of online shoppers. Moreover, the results have important managerial and policy consequences. Online retailers must adapt to the highly aware online navigators who will eventually represent most customers. Given that customers' perceptions of technological readiness influence their willingness to use online shopping, governments must invest in solid technological infrastructure to help consumers perceive that they have dependable, inexpensive, and easily accessible resources to assist them with online buying solutions. More so, governments and policymakers should make building general technology expertise a priority to give consumers more confidence in exploring and using online buying via training classes and basic tutorials on how to utilize online shopping. Meanwhile, Internet shopping providers can ensure that customers have a thorough understanding of how to use the services offered. They can, for example, use various social media channels to describe the features of the supplied online shopping to the target audience.

## CONCLUSION AND FUTURE RESEARCH RECOMMENDATIONS

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Despite the many merits of the study, some limitations are notable. The study is focused only on the situation in Jordan. Future studies should investigate the relationship between online purchasing intention, PR, privacy concerns, trust, and TS to determine whether the results of this study in Jordan can be generalized to a broader context in other countries. Furthermore, the questionnaire included questions about e-commerce sites in general, which may leave the responders confused because their responses may vary per the site in question. Convenience sampling was used to select respondents from a mixed population of Internet users in Jordan using a cross-sectional methodology and quantitative techniques. Future studies can consider using random sampling techniques, as triangulation methods can be considered a limitation of the study.

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