

Perceived Risk in Apparel Online Shopping:

A Multi Dimensional Perspective

LE RISQUE PERÇU DANS DES ACHATS EN LIGNE D'HABILLEMENT :

UNE PERSPECTIVE DE DIMENSIONNELLE MULTIPLE

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Abstract: The purpose of this study, drawing on marketing and psychometric paradigms, is to investigate the effect of risk perception dimensions on apparel internet purchase intention among Saudi consumers. A web-based survey was conducted to measure consumers' perception of the six types of risk associated with apparel online shopping and their influence on purchase intention. Three hundred responses were collected. Results showed that not all the considered risk constructs have the same influences on apparel internet purchasing intention. Specifically, time and performance risks have the most significant influence followed by privacy and social risks.

Key words: Consumer behavior; Apparel; Internet shopping; Saudi Arabia

Résumé: Le but de cette étude, dessinant sur le marketing et les paradigmes psychométriques, est d'étudier l'effet des dimensions de perception de risque sur l'intention d'achat d'habillement sur l'Internet parmi les consommateurs saoudiens. Une enquête basée sur le WEB a été menée pour mesurer consommateurs des six types du risque liés aux achats en ligne d'habillement et de leur influence sur l'intention d'achat. Trois cents réponses ont été rassemblées. Les résultats ont prouvé que non toutes les constructions considérées de risque ont la même influence sur l'Internet d'habillement achetant l'intention. Spécifiquement, le temps et les risqué de représentation ont l'influence la plus significative suivie de l'intimité et des risques sociaux.

Mots clés: Comportement du consommateur; Habillement; Achats d'Internet; Arabie Saoudite

1. INTRODUCTION

Despite the economic downturn during 2008, Electronic commerce (e-commerce) has continued to experience exponential growth. According to Forrester report, the forecasts online retail sales in the U.S. will be nearly \$250 billion, up from \$155 billion in 2009. During 2009, online retail sales were up 11 percent, compared to 2.5 percent for all retail sales.

With the rapid development of the World Wide Web and an increasing percentage of the worldwide population gaining internet access, e-commerce will play an important economic role (Chiang & Nunez 2007). The popularity of internet shopping has stimulated widespread research aimed at attracting and retaining consumers from either a consumer- or a technology-oriented view (Jarvenpaa and Todd 1997). However, many scholars have argued that perceived risk in internet shopping negatively influence consumer behavior during online shopping (Park, Lee, and Ahn, 2004) and intention to shop online (Salisbury, Pearson, Pearson, and Miller, 2001; Pavlou, 2003).

Similar to other developed and developing nations, there has been a tremendous increase in internet users in Saudi Arabia; where there were one million users during 2001 and around 9.6 million users in the beginning of 2009 with 35% annual growth and 38% usage among the population (Alriyadh, Sep.2009). According to the latest World Internet User

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*Received 27 January 2011; accepted 19 March 2011

Statistics report, Saudi Arabia ranked second after Iran among Middle Eastern countries in internet usage. The Saudi Arabian market is considered the largest retail market in the Middle East. According to Business Monitor International report (2010), the forecast average annual private consumption growth in Saudi Arabia is 7.9% between 2011 and 2014.

In the e-commerce dimension, most of the Saudi web sites are very weak in buying and selling facilities and do not apply transaction processing, trust, e-payment, and rewards and loyalty programs. Saudi Arabia's consumers spent online more than \$3.28 billion in B2C e-commerce. The Arab Advisors Group (the major survey of Internet users in Saudi Arabia), revealed that 48.36% of internet users in Saudi Arabia reported purchasing products and services online and through their mobile handsets during 2007.

According to master card report for the first quarter of 2009, Saudi consumers have the highest consumption and spending rates in The Middle East and Africa in spite of the economic downturn. Despite the mentioned facts about the country's retail market, little empirical research has been found on Saudi Arabian e-commerce and specifically, research regarding apparel internet shopping. This research paper attempts to fill in the gap in exploring Saudi Arabian's risk perception

The main contribution of this research study is to explore and investigate perceived risk of apparel online shopping among Saudi consumers and the effect of perceived risk on apparel online purchasing intention.

This paper is organized as follows. The next section presents literature review for related variables and the theoretical background of Theory of Risk Perception investigating Saudi Arabian consumers' perceived risk towards online apparel shopping. The second section provides a foundation and framework of the study. The third section describes the research methodology. An analysis of results follows in the fourth section. The final section provides discussion of research results as-well-as implications and limitations of the study.

2. BACKGROUND LITERATURE

The purpose of this study, drawing on marketing and psychometric paradigms, is to investigate the effect of risk perception dimensions on apparel internet purchase intention. Moreover, the study investigates the differences in risk perception and purchase intention between apparel buyers, and non-buyers.

3. THEORETICAL FRAMEWORK

The concept of risk perception was first introduced in the consumer behavior literature by Bauer (1960). Bauer (1967) considered risk perception as a combination of uncertainty with the possibility of serious outcomes. Perceived risk is a compensation of two factors, uncertainty with the possibility of loss as a consequence of certain behavior and the importance attributed to that loss (Kogan and Wallach, 1964 and Cox, 1967). It has been defined as "the nature and amount of risk perceived by a consumer in contemplating a particular purchase decision" (Cox and Rich, 1964, p. 33).

4. PURCHASE INTENTION AND PERCEIVED RISK

Purchase intention has been widely used in the e-commerce literature to predict consumer intentions to engage in online transactions. Consumer intentions to use the internet as a shopping channel are a significant predictor of consumers' actual participation in online transactions (Pavlou and Fygenon, 2006). Specifically, previous research indicated that purchase intention is negatively influenced by the perceived risk associated with the purchase (Salisbury et al., 2001; Pavlou, 2003; and Wood and Scheer, 1996). The relationship between intention and behavior is based on the assumption that consumers attempt to make rational decisions based on information available to them. Therefore, an individual's behavioral intention to perform or not to perform a behavior is the immediate determinant of that person's actual behavior (Ajzen and Fishbein, 1980).

H1. Consumers' intention to purchase apparel through the internet is negatively influenced by perceived risk in online shopping.

5. PERCEIVED RISK

Shopping has long been recognized as a risky activity especially in the context of online shopping. Since the introduction of perceived risk in consumer behavior literature, several studies have been conducted to explain this concept and its impact on consumer behavior. Many scholars have argued that perceived risk in e-commerce negatively influence attitude towards internet shopping (Jarvenpaa and Todd, 1997; O'Cass and Fenech, 2003; Fenech; and O'Cass 2001; Shih, 2004), intention to shop through the internet (Salisbury, Pearson, Pearson, and Miller, 2001; Liao and Cheung, 2001; Gefen,

2003; and Pavlou, 2003) and internet shopping behavior (Park, Lee, and Ahn, 2004). Hence, five types of risks while making purchase decision have been identified; performance, financial, time, social, and psychological risks. Later research explaining perceived risk in internet shopping has identified an additional risk dimension including privacy risk, which includes both, personal and credit card information.

6. PERFORMANCE RISK

Performance risk involves the perception that the product purchased may malfunction and may not perform or function as it was designed or originally expected, which may result in failing to meet the desired benefits of the consumer (Jacoby and Kaplan, 1972; Peter and Ryan, 1976; Stone and Gronhaug, 1993; kim and lennon, 2000). Perceived performance risk may be higher in the online shopping context due to inability to physically examine the product before purchase (Garbarino and Strahilevitz, 2004).

H2a. Intention to shop for apparel products on the internet is negatively influenced by the performance risk associated with it.

7. FINANCIAL RISK

Consumers perceive financial risk when buying a product resulting from potential financial loss due to fraud or overspending. Financial risk is defined as the monetary cost associated with the purchase price as-well-as the following maintenance cost (Jacoby and Kaplan, 1972; Peter and Ryan, 1976, and Stone and Gronhaug, 1993). The main financial concern for many online consumers is credit card fraud, where they report increasing concerns regarding financial loss during online transactions. Due to the inherent nature of online shopping, consumers experience some level of risk. In these uncertain situations, trust becomes a crucial factor in choosing an internet vendor (Luhmann, 1988).

H2b. Intention to shop for apparel products on the internet is negatively influenced by the financial risk associated with it.

8. PSYCHOLOGICAL RISK

Psychological Risk is defined as the potential loss of self-respect due to the frustration of not achieving a buying goal (Jacoby and Kaplan, 1972; Peter and Ryan, 1976, and Stone and Gronhaug, 1993). It also refers to the perception that a negative effect on a consumer's tranquility or satisfaction that might be caused by a defective product (Jacoby and Kaplan, 1972). Consumers might experience mental pressure as a result of the possibility of future regrets regarding their purchase decision. This uncertainty or pressure may cause psychological risk, which in turn, affect purchase decision.

H2c. Intention to shop for apparel products on the internet is negatively influenced by the psychological risk associated with it.

9. SOCIAL RISK

Social risk refers to the perception of a product purchased may result in disapproval by family or friends (Dowling and Staelin, 1994). It also refers to the potential loss of status in consumer's social group due to either the inappropriateness of the product or disapproval of using internet as a shopping channel (Jacoby and Kaplan, 1972; Peter and Ryan, 1976, and Stone and Gronhaug, 1993). Usually, consumers try to obtain advice or consent from others in their social group in order to reduce social risk.

H2d. Intention to shop for apparel products on the internet is negatively influenced by the social risk associated with it.

10. TIME RISK

Time risk is the perception that time, convenience, or effort may be wasted when a product purchased is repaired or replaced when fail to perform as expected (Kaplan, Szybillo and Jacoby 1974). It also refers to the potential loss of time when making a bad purchasing decision through wasting time researching, purchasing, and may be repairing or replacing the purchased product (Peter and Ryan, 1976; Stone and Gronhaug, 1993).

H2e. Intention to shop for apparel products on the internet is negatively influenced by the time risk associated with it.

11. PRIVACY RISK

It is the potential loss of control over personal information (Featherman and Pavlou, 2003). Consumers may feel less control over their personal information which might be revealed as a result of online transaction, which makes them hesitant to provide such information required to make an online transaction (Drennan, Mort, and Previte, 2006). Privacy risk has been added later to e-marketing literature as an additional risk dimension (Jarvenpaa and Todd, 1997, and Forsythe and Shi, 2003).

H2f. Intention to shop for apparel products on the internet is negatively influenced by the privacy risk associated with it.

12. APPAREL INTERNET SHOPPING AND PERCEIVED RISK

Consumers in developed countries have a history of purchasing apparel through the mail, which can be converted into an online product category. In the contrary, as a developing country, consumers in Saudi Arabia have no history in buying products through the mail, where this ancient culture is used to face-to-face transactions. Moreover, until recently, Saudi Arabia lacked a standardized address system for homes and businesses in the country. Starting 2005, the country developed a state of the art postal address system, where each residence and business needs to activate in order to receive mail. During 2010, the Saudi postal system serving five million locations in 40 cities and serving 80 per cent of the Saudi population (WAS, 2010). The Saudi Postal Service Project (Wasil) has been instrumental in modernizing the communication sector in the country. Due to the increased reliability of the postal service, businesses in Saudi Arabia are starting to adopt e-commerce business models and sell their products online. Moreover, consumers are able to shop across-borders even if the internet vendor does not provide international shipping service through (Wasil International), where the Saudi mail service provides a shipping address for consumers to use when shopping in the U. S., Europe, China, and Australia.

Consumers' attitude towards purchasing sensory products (e. g. apparel) through the internet is not as positive as their attitude towards purchasing other products such as books or computer software (Shim, Eastlick, and Lotz 2000). Consumers are used to judge and evaluate apparel products at the point of sale, which is inside the store (Sproles and Burns, 1994; and Brown and Rice, 1998). On the online context, tangible product attributes of search products become intangible, as in the case of apparel attributes such as fit and fabric texture. The lack of ability to physically evaluate apparel products through the internet creates a significant risk for apparel internet shoppers. In the contrary, internet shopping provides consumers with easy access to other product information such as product specifications, consumers' satisfaction ratings, and customer reviews. Keen, Wetzels, Deruyterd, and Feinburg (2004), argues that although scholars had intensively researched the consumer decision- making process in retail stores, more research is needed to identify the drivers to use the internet as a shopping channel.

H3. Apparel internet shoppers will show a lower level of perceived risk towards internet shopping than will non-internet shoppers.

Factors affecting consumers to shop online have received wide attention among researchers and have become a common practice within the last two decades in developed countries. Though, it is yet to be tested from a consumer perspective in developing countries.

13. METHOD

A web-based survey was conducted to measure consumers' perception of the six types of risk associated with apparel online shopping and their influence on purchase intention. The link for the questionnaire was sent to a random sample consisting of 5,000 Saudi university students through SMS and e-mail messages through the e-services of a large university in Riyadh. The questionnaire was posted online for a period of four weeks. Three hundred responses were collected. Although university students represent only a portion of online shopper population, many studies have used them as a convenient substitute for online population. Research indicated that online shoppers are mostly young and more educated than conventional consumers (Teo, 2002; Sulaiman and Mohezar 2008; Korgaonkar and Wolin 1999; Bagchi and Mahmood 2004; Li et al. 1999; Susskind 2004). In addition, 50% of the Saudi population is under the age of 25 (Saudi Arabian Central Department of Statistics and information, 2008), which makes this age group suitable for representing online consumers. Table 1 provides details of the characteristics of respondents.

14. QUESTIONNAIRE DEVELOPMENT

For a dependent variable in this study, a multi item scale was constructed to measure perceived risk on apparel online shopping from Saudi consumers' perspectives and to measure their intentions to shop for apparel products on the internet. Survey items include three sections; demographic information and internet usage, perceived risk, and intention to shop for apparel products on the internet. Demographic variables (gender, age, and income) were measured using ordinal scales. Other variables that were measured include internet usage. Respondents was asked questions regarding internet usage patterns and online shopping experience such as, time spent surfing the web, and internet purchase (all measured using ordinal categories). The second section includes items measuring risk perception, which was measured in terms of eighteen item scale measuring six perceived risk constructs including; financial, social, performance, time, psychological, and privacy risks, which was adopted from Garner (1986), Jarvenpaa and Todd (1997), and Featherman and Pavlou (2003). The last section includes items measuring intention to purchase via internet using a single item following the suggestion of Morgan and hunt (1994). It is measured by a weighted average of responses to three statements. Responses for the second and third sections were obtained in a seven-point Likert scale, anchored at the ends with terms "totally disagree" and "totally agree".

15. SAMPLE DESCRIPTION

A total of 300 responses were obtained which were all usable. With the use of JavaScript, respondents were alerted about incomplete responses, if any, when he or she clicks on the submit button. Table 1 shows the social-demographic profile of the study sample.

Table 1: Socio-demographic profile of the sample

Variable	Percent	Non-buyers	Buyers
Gender			
Male	45.8	94	52
Female	54.2	120	53
Age			
17 years or under	.9	2	1
18 – 19	53.4	121	50
20 – 21	18.1	44	14
22 – 23	9.7	19	12
24 years or over	17.5	28	28
Household monthly income			
Under \$800	7.5	17	7
\$800 to less than \$1500	3.8	8	4
\$1500 to less than \$2500	4.7	32	12
\$2500 to less than \$3500	21	29	9
Over \$3500	62.8	128	73
Internet usage			
Under one year	2.5	6	2
1 – 2 years	7.8	21	4
2 – 5 years	25.6	64	18
More than 5 years	30.6	69	29
More than 8 years	33.1	54	52
Purchased apparel products online			
No	67.2	-	-
Yes	32.8	-	-

16. RESULTS

A pilot study was conducted with twenty college students to test instrument validity. To test for instrument reliability, Cronbach alpha was conduct for the measured constructs (Table 2). In order to test the research hypotheses, a multiple regression was preformed to test H1 and H2a – H2f. Results indicated that risk perception, the mediating construct, is influenced by all six risk dimensions ($r^2 = .131$.) The estimated coefficients for the pathways are sown in Table 3. All relationships between risk dimensions and risk perception are supported at 0.001 significance level.

Table 2: Descriptive statistics and reliability test

Construct	Mean	S.D.	Alpha
Financial Risk (FR)	4.81	1.76	.797
Performance risk (PR)	4.87	1.76	.852
Social risk (SR)	3.45	1.90	.924
Time risk (TR)	4.19	1.49	.733
Psychological risk (PSR)	4.58	1.83	.862
Privacy risk (PRR)	4.43	1.85	.805
Intention to purchase (INTENTION)	3.77	1.26	.909

The influence of the multidimensional character of risk on intention to purchase apparel on the internet was tested ($r^2 = -.206$). Results showed that not all the considered risk constructs have the same influence on apparel internet purchasing intention. Specifically, time and performance risks have the most significant influence followed by privacy and social risks, while no significant influence have been found for psychological and financial risks.

Table 3: Regression analysis of risk dimensions on apparel purchase intention

Construct	B	S.E.	t	Sig.
(FR)	-.125	.080	-1.57	.117
(PR)	.174	.058	2.98	.003
(SR)	-.087	.040	-2.15	.032
(TR)	.202	.059	3.43	.001
(PSR)	-.126	.066	-1.89	.059
(PRR)	-.132	.062	-2.13	.033

A t-test for independent samples was carried-out to examine possible difference in perceived risk between apparel buyers and non-buyer regarding the perceived risk of internet shopping. In order to examine the differences and similarities between the two groups, the mean scores of each of the six dimensions of perceived risk were compared. Results indicated that a significant difference existed between the two groups (i.e., online shoppers and non-online shoppers groups). As hypothesized, apparel shoppers show a lower level of perceived risk than non-shoppers. Moreover, results showed that there are statistical significant differences between the two groups for all six risk dimensions including, performance, psychological, financial, social, time, and privacy risks (Table 4).

Table 4: Comparison of internet non-buyers and buyers samples means

Construct	Non-buyers (N, 205)		Buyers (N, 95)		t
	M	SD	M	SD	
Financial Risk (FR)	5.16	1.71	4.10	1.65	5.26
Performance risk (PR)	5.05	1.70	4.49	1.82	2.70
Social risk (SR)	3.69	1.84	2.94	1.92	3.35
Time risk (TR)	4.35	1.45	3.87	1.51	2.73
Psychological risk (PSR)	4.91	1.73	3.91	1.86	4.72
Privacy risk (PRR)	4.83	1.75	3.61	1.79	5.76
Intention to purchase (INTENTION)	3.48	1.18	4.35	1.21	-6.102

All t-test results for the differences between the two groups are significant at the 0.01 level.

17. DISCUSSION

The present study examines the influence of perceived risk on apparel internet shopping intention and the differences in perceived risk between internet buyers and non-buyers. Specifically, the influence of the six perceived risk dimensions including, performance, psychological, financial, social, time, and privacy risks, on intention to shop for apparel on the internet were examined. Results indicated that risk perception has a strong negative influence on apparel purchase intention. Findings of this study are consistent with previous research on the influence of perceived risk on purchase behavior (Bauer, 1967; Tse, 1999). Moreover, the results obtained confirm the negative relationship between perceived risk on internet shopping and purchase intention, which coincide with previous research findings (Park, Lee, and Ahn, 2004; Liang and Huang, 1998, and Liao and Cheung, 2001). Nevertheless, differences are observed between different risk dimensions, where consumers perceive more performance and time risks in apparel internet shopping. Moreover, consumers perceive privacy and social risks with a lesser significance than performance and time risks on apparel internet shopping.

It appears that, in an online setting, consumers' inability to physically evaluate apparel products contributed to the performance risk perceived by Saudi consumers. Consumers are used to physically touch and try-on apparel products in a store setting before making a purchase decision. Moreover, Saudi consumers perceive more time risk associated with

internet shopping. This might be explained by that consumers in the country make all online purchases across borders, where there are no apparel online vendors in Saudi Arabia. International shipping requires more delivery time and more possibilities of delay in receiving goods or non-delivery of ordered goods.

Consumers in Saudi Arabia with previous experience in apparel virtual shopping perceived less risk than consumers who did not already make an electronic transaction. In particular, consumers without previous experience perceive more risk in shopping on the internet in all six risk dimensions than individuals that have already made previous electronic transaction. These findings coincide with (Herrero Crespo, Bosque, and Salmones, 2009) study conducted with Spain consumers except for social risk, which was found to have a lesser significance for consumers without previous experience. The observed divergence for both analyzed samples can be explained by Hofstede's national cultural dimensions theory (1980). Hofstede's study characterized Saudi Arabia as a high uncertainty avoidance culture. High uncertainty avoidance deals with tolerance for uncertainty and ambiguity. It indicates to what extent a person feels uncomfortable in unstructured situations. The author argued that individuals in such cultures would perceive more risk in an uncertain situation, (i.e., internet shopping). Since this ancient culture is used to face to face transactions, consumers might feel more risk in using the internet as a shopping channel and therefore, try to avoid this uncertain situation considering the lack of direct knowledge of electronic transactions.

The current study has an important managerial implication. It provides marketers with the importance of consumers risk perception in order to adopt adequate risk-reduction strategies in the internet shopping environment. In response to the specific findings of this research study, online vendors will have to reinforce product information to cope with the uncertainty associated with their inability to handle the apparel product. Internet vendors have an advantage of being able to provide comprehensive and non-sensory product information to consumers than brick and mortar stores. Hence, providing comprehensive product information such as fiber content, finishes, texture, sizing charts, 3-dimensional virtual modeling, product consumer rating, and care instructions would be enablers to reduce performance risk associated with apparel internet shopping. In addition, in order to increase sales volumes, internet vendors should deal with the best and most trusted international shipping service providers to reduce time risk avoiding delay or non-delivery of the goods. Moreover, internet vendors can decrease delivery time through providing international shipping directly to consumers, instead of delivering goods to a local address for another international carrier, thus decreasing time risk to consumers.

Despite the justification of using a young generation Y consumer group, this study was limited by the use of college student consumers as they tend to be more cosmopolitan than the population at large. The study was also limited by the employment of one product category, where the results of this research are limited to just apparel products. In spite of its limitations, this study provides an expletory attempt to examine the influence of perceived risk dimensions on apparel purchase intention from Saudi consumers' perspectives.

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