

2014

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### Recommended Citation

Changchit, Chuleeporn; Cutshall, Robert; and Lee, Tzong-Ru (2014) "Shopping Preference: A Comparative Study of American and Taiwanese Perceptions," *Journal of International Technology and Information Management*: Vol. 23 : Iss. 1 , Article 6.

Available at: <https://scholarworks.lib.csusb.edu/jitim/vol23/iss1/6>

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# Shopping Preference: A Comparative Study of American and Taiwanese Perceptions

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## ABSTRACT

*With a growing number of households turning towards the Internet and the world of e-commerce to shop, invest, make payments, and do online banking, it is crucial for online businesses to understand why some consumers prefer online shopping and some prefer shopping at a physical store. It is also important to investigate further whether their shopping preference is influenced by culture. This study aims at comparing the shopping preference between the consumers in the U.S. and in Taiwan. Three hundred and seventy-two (372) Americans and three hundred twenty-six (326) Taiwanese participated in this study. Five factors of shopping perception, including perceived usefulness, perceived ease of use, past online shopping experience, perceived security, and perceived uncertainty, were measured and compared between the two groups. The research findings may be used by online businesses to help recognize the factors that influence shopping preference of these two nationalities. The results should help online businesses gain an understanding of these factors and thus direct their efforts to develop features that satisfy the needs of their target customers and alter their business model to promote factors that have a positive influence on consumer adoption of online shopping.*

## INTRODUCTION

The Internet explosion has opened the door to a new electronic world. Consumers are now able to use the Internet for a variety of purposes such as research, communication, online banking, and even shopping. As a result of these advantages, the Internet is rapidly becoming a main method of communication and of conveniently conducting business. As Internet usage increases globally, the e-commerce market also increases, particularly in countries with well-developed marketing infrastructures. Many online shoppers are attracted to the ease and convenience that shopping via the Internet can provide (Shang, Chen, & Shen, 2005). Pew Internet, Inc. (2014) reported that 86% of American adults used the Internet in 2013, up from 14% in 1995.

The explosive growth and popularity of social media like Facebook and MySpace, coupled with applications offered with mobile smart phones, contributes to the increasing popularity and purchases of virtual goods, which has been a boom for e-commerce sites and mobile commerce (Thompson, 2010). Social media works in tandem with trust perception as online consumers are more willing to purchase goods and services via word of mouth recommendation from someone they know through a social media website or via a recommendation from an online stranger (Hird, 2009). Fueling the online consumer social media explosion is the increased power of cell phone applications. Between 2008 and 2009, mobile payments leaped from \$1 million dollars to \$24.8 million dollars due to new options to purchase virtual items and products from cell phones

such as software, games, music, and online books, instead of having to be in front of a desktop PC or laptop (Thompson, 2010).

Although there are increasing number of businesses establishing a website, not all consumers are participating in online transactions as part of the Internet boom ((Betts, 2001; Changchit & Cutshall, 2011). As more and more businesses continue to establish an online presence, they are finding that some consumers are still reluctant to shift in that same direction. For various consumers there are still concerns with security and passing personal data over the Internet. There is a disparity between the number of consumers who visit a site and the number of actual purchases being made. This suggests that large portions of the Internet population are non-participants in online transactions as opposed to those who fully complete transactions online and make purchases. Instead, these non-participants may completely abandon the purchase or finish the transaction in an offline setting. For this reason, it is important for online businesses or offline businesses interested in venturing into the online market to understand not only their consumers' perceptions, online and offline, but also which factors influence their shopping decisions. With a better understanding of the factors that play into the consumer's decision making process while completing transactions online or offline, retailers and businesses can better prepare themselves to serve their customers in either of these shopping venues.

Many brick and mortar companies have decided to enter the e-commerce marketplace, but the success of e-commerce on individual businesses are varied based on several conditions. The ability to attract and retain customers is important to the success of online businesses. This study intends to explore which factors are perceived as important to online customers in the U.S. and Taiwan when shopping on the Internet. The better an online business understands the perceptions of these shoppers, the higher the chance they can attract and retain customers.

## **LITERATURE REVIEW**

### ***Online Shopping in the United States***

A recent study reported that the number of Internet users in the U.S. has almost doubled over the last eight years to approximately 220 million in 2008 (Hannah & Lybecker, 2010). However, not all consumers are turning to the Internet for shopping. While the number of Internet users who have made an online purchase at one time is more than half, this does not explain the disparity between the number of visits websites recorded and the number of actual purchases made online. One report shows that although a website may receive millions of visitors, only about 3% of those visits result in a purchase (Betts, 2001). In addition, another study also reported that about 65% of online shopping carts are abandoned before a purchase is completed (O'Neill, 2001).

One explanation of these occurrences is that the majority of consumers are going online to window-shop and plan on making their purchases offline (Forsythe & Shi, 2003). Research is seen as a valuable tool by consumers in their decisions to buy products, but the Internet is not seen as the necessary method of purchase. The Internet and its online capabilities are generally seen as a research tool by consumers, as the Internet is capable of disseminating a large amount of information conveniently. Consequentially, although online capabilities include the ability to complete a purchase transaction, a good portion of consumers utilize the Internet to find information about a product, and then use the information at a physical shopping location.

Physical locations have the contrasting capabilities of providing sensory perception information for the consumer to use in their purchasing decisions that the Internet is seen as incapable of satisfying (Shim, Eastlick, Lotz, & Warrington, 2001). A physical location can provide more in the way of direct social interaction with others, and entertainment through the process of

shopping amongst physically present objects for a consumer (Shang, et al., 2005). Despite the benefits the Internet may provide in terms of online shopping, consumers may simply be using the Internet as a research tool, not a purchasing medium, to better inform themselves about products in order to make their purchases offline.

In a study conducted at a university in the South-western United States by Kim and Eastin (2011), the authors identified a significant relationship between shopping motivations and exploratory information seeking; in addition, a significant relationship was identified between exploratory information seeking and impulse buying. This study also identified significant relationships between pre-purchase online communication and post-purchase online communication, pre-purchase browsing time and pre-purchase online communication as well as, pre-purchase browsing time and online buying frequency. The data showed that perceived credibility of a product by other consumers is positively related to both online buying frequency and pre-purchase online communication.

Using the Theory of Reasoned Action (TRA), Cha (2011) analyzed subjective norms as an antecedent determinant of behavior influencing the online shopping intent of college students. The study asserted that subjective norms have a positive association with purchase intent of both real and virtual items by college students, which was shown as having a significant relationship. This suggests that the more social influence purchasing something online possesses the more likely they are to complete the purchase. The study also found that the TAM constructs did not influence the intent to purchase virtual items. It also found that security concerns did not influence purchase intent either. Instead, subjective norms and male gender were the significant factors determining the purchase intent of virtual items. Additional research by Chen and Cheng, in their 2009 study of online shopping intentions, confirmed the assertions of the TRA by making four modifications to the DeLone and McLean model and demonstrating a relationship between satisfaction and behavioral intention and perceived use.

Online purchasing in the United States comprises nearly 40% of global Internet purchases, which is the largest retail online sector in the world (Datamonitor, 2010). Pew Internet and the American Life Project (2008) reported that the number of Internet users purchasing products online increased 20% from 2000 to 2007, while e-commerce revenues had grown nearly fivefold during the same time. In the United States, Internet adoption at home increased from 62.2% in 2002 to 69.6% in 2008 (Talukdar & Gauri, 2011).

### ***Online Shopping in Taiwan***

Lee and Lin (2005) conducted an Internet shopping survey of Taiwanese students. The constructs they tested included the positive correlation between trust, site design, reliability, personalization, and responsiveness to service quality and customer satisfaction by way of influencing the intent to purchase. The results demonstrated that all of the constructs tested affirmed a positive correlation to service quality and customer satisfaction regarding the intent to purchase. The exception was personalization, which suggests that in Taiwan, personalization was not a significant factor in the decision to buy. Chin and Kao (2009) conducted online shopping research in Taiwan by measuring the four dimensions of process quality including design, information accuracy, functionality and ease of use to establish the importance of process quality as a factor that may build customer loyalty. Their research confirmed similar findings with regard to process quality and outcome quality, which had a positive and direct influence on customer satisfaction, although behavioral intentions remained unaffected.

Additional research conducted in Taiwan includes the importance of logistics in online shopping and its influence on customer loyalty (Huang, Kuo, & Xu, 2009). This study determined that the performance of logistical services demonstrated a positive effect on loyalty and indirectly influenced loyalty through customer satisfaction. Liang (2009) studied the critical factors influencing young Taiwanese online shoppers and developed a prediction model based on the results of this study. The prediction model is targeted to Generation Y shoppers for use by the retailers who target this shopping demographic. Risk aversion, convenience, brand reputation, interaction function, promotion, services for members, trust, and site quality all influenced the Generation Y online shoppers' decision to purchase online. These motivational factors should be considered during marketing plan development for online retailers. The motivations to adopt use of e-payment systems in Taiwan have been investigated by way of comparison to Vietnam (Lin & Nguyen, 2011). They conducted a survey of Taiwanese e-payment users to determine the moderating effects of the Technology Acceptance Model (TAM) and the Personal Innovation in Information Technology (PIIT) construct. The research demonstrated that the TAM model was consistent, and that the Taiwanese are more prone to adopt e-payment systems than the Vietnamese. The factors that influenced e-payment adoption in Taiwan were related to culture, affluence, and education level.

Consumer acceptance of the Internet as a distribution channel in Taiwan, as studied by Cheng, Sheen, and Lou (2006), revealed that the TAM factors significantly influence positive attitudes towards the Internet as a distribution channel. Perceived security risk showed no influence on consumer attitudes or usefulness perceptions of the Internet as an online distribution channel. They also found that the more positive the attitude toward online distribution, the higher the intent, which also influences the actual use of an online distribution channel.

### ***Cultural Considerations***

Culture has long been recognized as an important factor shaping consumer behavior in offline shopping scenarios (Gong, 2009). Hence, one would expect that culture would also shape consumer behavior in an online shopping context. Culture is not an easy concept to define, but there are definitions that have been developed. For example, Matsumoto (1994) states that culture is the degree to which people share attributes, values, beliefs, and behaviors. Perhaps the most popular definition of culture is Hofstede's, who defines culture as, "the collective programming of the mind which distinguishes the members of one group from another" (1984, p.21).

In his work, Hofstede (1984) identified four dimensions of culture. The first dimension is that of power distance and refers to the extent that less powerful members of an organization accept that power is distributed unequally. The second dimension is individualism, which refers to the degree to which individuals emphasize self-interest over that of the group. The third dimension is that of masculinity, which attaches importance to goals such as career and material success versus social goals such as relationships and helping others. The fourth dimension is uncertainty avoidance and addresses the degree to which people of a society feel uncomfortable with uncertainty and ambiguity.

While Hofstede's work was first applied to human resource management, it is now increasingly used in business and marketing studies (Yoon, 2009). Different cultures respond differently to situations (Fenech & O'Cass 2001; Park & Jun, 2003). In this study, two hypotheses were examined as follows:

H1: There is a significant difference between Americans and Taiwanese on their shopping preferences between online shopping and shopping at a physical store.

H2: There is a significant difference between Americans and Taiwanese on their perception of transacting online.

### ***Factors Influencing an Online Shopping Decision***

Despite the increased access to customers that the Internet provides, the number of Internet consumers who actually complete purchases does not increase at the same rate as the Internet users ((Betts, 2001; Changchit & Cutshall, 2011). It is thus important to examine why some consumers do not like to shop online.

In an attempt to examine which factors influence the online shopping perception between the two groups, Americans and Taiwanese, data was collected to analyze their overall view of the Internet as a secure vehicle for purchasing goods and/or ordering services. The findings of such factors should help online businesses focus on the factors that can influence consumers to shop online as well as trying to minimize the effect of the factors that prevent them from shopping online. In this study, five factors will be investigated as follows: 1) perceived usefulness of online shopping; 2) perceived ease of use of online shopping; 3) past experience with online shopping; 4) perceived security of online shopping; and 5) perceived uncertainty of online shopping. Survey questions for this empirical research were compiled from previous studies on electronic commerce shopping behaviors (Alomaim, Tunca, & Zairi, 2003; Changchit, 2006; Joines, Scherer, & Scheufele, 2003; Koivumäki, 2001; Koyuncu & Lien, 2003; Lin, 2003; Posnock, 2004). There were additional questions related to target demographics. The survey questions based on previous studies represented five factors which are discussed below.

#### ***1. Perceived Usefulness of Online Shopping***

Perceived usefulness (PU) of online shopping can be divided into two groups, meeting consumers' functional (utilitarian) needs and meeting consumers' nonfunctional (hedonic) needs (Bhatnagar & Ghose, 2004; Childers et al., 2001). The functional benefits of online shopping include the factors of convenience, cost savings, or merchandise selection. Convenience is one of the most prominent benefits of online shopping (Bhatnagar & Ghose, 2004; Forsythe et al., 2006). Moreover, there is abundant availability and variety of products and price-related information available on the Internet (Forsythe et al., 2006; Wolfinbarger & Gilly, 2001). On the other hand, there are some benefits that are less functional, but more hedonic through online shopping, such as acknowledging the social and emotional values provided by online shopping, and the entertainment aspects of online browsing and purchasing activities (e.g. Forsythe et al., 2006; Järvenpää & Todd, 1996).

The perceived usefulness of online shopping can also be explained in many other countries, such as New Zealand where convenience and enjoyment are positively related to the frequency and amount of online purchasing among Internet users (Doolin et al. 2005). Convenience, price, and pleasure offered by an online book store influenced Korean online consumers' overall perceived value, which then significantly influenced their repurchase intention from the web site (Gupta & Kim 2007). Hence, consumers can perceive similar types of benefits associated with the online shopping process regardless of consumer type.

In this study, consumers' perceived usefulness of online shopping were measured by four survey

items: less time-consuming, lower prices, more convenient, and offering the capability to find rare items generally unavailable in offline stores. The following is the hypothesis for this factor:

H3: There is a significant difference between Americans and Taiwanese on their perception about the benefits of online shopping

## **2. Perceived Ease of Use of Online Shopping**

Perceived ease of use (PEOU) is the degree to which a person believes that using a particular system will be free of effort. Ease of use implies the consumer's perception that shopping on the Internet will involve a minimum of effort. It also refers to their perceptions regarding the process leading to the final online shopping outcome. Ease of use is always involved in the issue of how easy the Internet is to use as a shopping medium. Information system researchers have found that PEOU has a positive effect on the behavioral intention and PU to use IT systems (Doll, Hendrickson, & Deng, 1998), and is particularly influential in the early stages of the user's experience with a technology or system (Davis, 1989, 1993). Therefore, a system that is perceived to be easier to use than another is more acceptable for users.

Venkatesh (2000) points out that "control", "computer playfulness", and "computer anxiety" are the three other dimensions of the ease of use construct. To get a deeper understanding, the author explained that "Control" relates to an individual's perception of the availability of knowledge, resources, and opportunities required to perform a specific behavior, which is the online shopping in the context of this study. The dimension "Computer playfulness" is described as the degree of cognitive spontaneity in computer interactions. Playful individuals may tend to underestimate the difficulty of the means, or process, of online shopping because they simply enjoy the process and do not perceive it as being effortful compared to those who are less playful. In contrast, the "Computer anxiety" dimension is defined as an individual's apprehension, or even fear, when she/he is faced with the possibility of using computers. In addition, "site characteristics" such as search functions, download speed, and navigation, also play a role in shaping the "ease of use" (Zeithaml et al., 2002).

In this study, the consumers' perceived ease of use was measured by four survey items: easier to compare products and prices, easier to find the right product, easier to pay, and ability to avoid the hassles of traffic, and long lines. The following is the hypothesis for this factor:

H4: There is a significant difference between Americans and Taiwanese on their perception about the ease of use of online shopping

## **3. Past Experience with Online Shopping**

Research indicates that consumers evaluate their online shopping experiences in terms of perceptions regarding product information, payment, delivery, service, privacy and other such factors (Burke, 2002; Parasuraman & Zinkhan, 2002; Mathwick et al., 2001). Consumers will or will not continue future online purchasing based on whether or not their past experience was positive (Shim et al., 2001). Dholakia and Uusitalo (2002) examined the relationship between experience and perceived usefulness of online shopping and reported that the prior in-home shopping experience, including catalog, TV, and Internet shopping, positively influenced the perceived hedonic and utilitarian benefits of Internet shopping.

In this study, the consumers' past experience with online shopping was measured by four survey

items: receiving the right product, receiving the product in a timely manner, satisfaction with the product, and a good shopping experience overall. The following is the hypothesis for this factor:

H5: There is a significant difference between Americans and Taiwanese on their past experience with online shopping.

#### **4. *Perceived Security of Online Shopping***

Perceived security was defined as a threat that creates a circumstance, condition, or event with the potential to cause economic hardship, to access data or network resources in the form of destruction, disclosures, and modification of data, denial of service, and/or fraud, waste and abuse (Kalakota & Whinston, 1997, p. 853). During the online shopping process, personal and financial information can be intercepted and used for fraudulent purposes. This requires that online investing involves greater security concerns than conventional trading; users need a sense of security when conducting financial transactions, and it is still one of the major barriers to e-commerce growth (Wang et al., 1998; Furnell & Karweni, 1999; Järvenpää et al., 1999; Gefen, 2000; Lee & Turban, 2002). In other words, security has been a central concern for both customers and retailers. It involves the ability to keep financial and proprietary information secure as it is transmitted over the Internet, as well as authentication of sender identity and status (Rowley, 1996).

Involving the use of technical advancements like cryptography, digital signatures and certificates aimed at protecting users from the risk of fraud, hacking or “phishing”, security has a positive influence on the intention to purchase online (Ranganathan & Ganapathy, 2002; Yousafzai et al., 2003; Kim et al., 2008; Lian & Lin, 2008). Although the objective security of the electronic channel as a transaction medium is important, it is the subjective risk perception of the consumer that is relevant to the acceptance of e-commerce (Klang, 2001; Grabner-Kräuter & Kaluscha, 2003). Thus, consumers tend to believe that online purchasing is safe when online vendors have implemented security mechanisms.

Laforet and Li (2005) found the issue of security to be the most important factor that motivated the Chinese consumer adoption of mobile banking. Therefore, network and data transaction attacks, or attacks through unauthorized access to the e-investors’ accounts, could be a substantial barrier to the adoption of online trading practices. Furthermore, Koufaris and Hampton-Sosa (2004) also point out that perceived security control of the site strongly influenced initial trust in the company. Consumers will have greater trust in the online system, which in turn will lead to higher intention to use it, when the consumers are less concerned about unauthorized use of or illegal access to their personal and financial data by third parties. Thus, it is important for online financial dealers and stockbrokers to improve their web security features in order to enhance the consumers’ trust in the online trading system.

In this study, the consumers’ perceived security of online shopping was measured by four survey items: they are comfortable using credit cards, they feel safe about identity protection, they consider online companies trustworthy, and they feel that credit card companies will protect them from unauthorized charges. The following is the hypothesis for this factor:

H6: There is a significant difference between Americans and Taiwanese on their perception about the ease of use of online shopping

#### **5. *Perceived Uncertainty of Online Shopping***



Some research uses a dimension of overall “perceived risk” by potential online consumers’ which is called, “product risk” (Bhatnagar & Ghose, 2004) or “product performance risk” (Forsythe & Shi, 2003). Perceived risk is an uncertainty phenomenon, which will be caused by consumers’ subjective assessments in the decision making process when consumers make wrong or unsuitable decisions in the purchasing process (Murphy & Enis, 1986). Based on the theory of consumers’ perceived risk, Taylor (1974) suggests that consumers perceive risk as they face uncertainty and undesirable consequences due to an unsuitable decision. Perceived risk, along with perceived waiting time, were both found to be antecedents of shopping cart abandonment (Rajamma et al., 2009).

According to Kim, et al. (2007), consumers’ perceived risk can be defined as a consumer’s belief about potential uncertainty or negative outcomes from the e-transaction. Other researchers have found that consumers perceive higher risk in a non-store shopping format, such as online shopping, than an in-store shopping (Lee & Tan, 2003; Tan, 1999). During the process of online shopping, there are many risks, such as product performance, finance, time, convenience. The product performance risk is defined as the uncertainty related to functional aspects of the product (Shimp & Bearden, 1982), and financial risk is defined as the uncertainty of the potential loss of money due to the security issue of online transactions or service failure (Grewal et al., 1994). Moreover, consumers might perceive a time/convenience risk because of the difficulties or delays experienced during website navigation, order submission, or waiting for the delivery in online shopping (Biswas & Biswas, 2004; Forsythe & Shi, 2003).

The transaction processes may reduce the level of perceived risk (Pavlou, 2003; Koufaris & Hampton-Sosa, 2004). Moreover, perceptions of risk in the online marketplace can also be reduced by online trust because perceived risk is a strong trust antecedent (Murkherjee & Nath, 2007; Park & Jun, 2003). Chen and Barnes (2007) point out that initial trust in electronic commerce is positively related to perceived risk. According to Warrington, Abgrab and Caldwell (2000), consumers’ online trust can be increased by decreasing perceived environmental risks or raising security of web sites.

In this study we used a more general term, “perceived uncertainty of online shopping” and measure it by four survey items: they may not receive the ordered item, the product may not arrive on time, the product may not be in good condition, or the product may not be the correct one ordered. The following is the hypothesis for this factor:

H7: There is a significant difference between Americans and Taiwanese on their perception about the uncertainty of online shopping

## **RESEARCH METHODOLOGY**

A direct survey was used to collect the data for this study. The survey questions are compiled from previous study questions pertaining to consumer behaviors (Alomaim, et al., 2003; Joines, Scherer & Scheufele, 2003; Koivumaki, 2001; Koyuncu & Lien, 2003; Lin, 2003; Posnock, 2004). The survey consists of thirty-eight (38) questions. Besides thirteen (13) questions on demographics, one (1) question asks whether subjects prefer online shopping or physical store shopping. Twenty-two (22) questions were designed to examine why subjects leave the website before completing the transaction, and the remaining two (2) questions ask for the expected benefits they have for online shopping. For the 22 questions, the survey asked subjects to refer to the most recent website they visited with an intention to buy, but decided to leave without actually buying.

The survey was developed with five-point Likert scaled questions. Answers to the scaled questions ranged from “strongly disagree” to “strongly agree,” with each acting as end points. Subjects were asked to rate their level of agreement with each item as a reason that may have caused them to leave a website without buying. To validate the clarity of these questions, three professors and three researchers were asked to read through the survey questions. Any revisions to the survey were made based on the feedback received.

For the American subjects, the surveys were administered to random shoppers at local malls and to students at a South-western United States university. Three hundred and eighty-six (386) subjects completed and returned the survey instruments. However, only three hundred and seventy-two (372) subjects had experience conducting online transactions. Details on the subjects’ demographics are provided in Table 1 below.

**Table 1. Subjects’ Demographics (Americans).**

<b>Gender</b>					
Male: 197 (52.96%)		Female: 174 (46.77%)		No Answer: 1 (0.27%)	
<b>Age (in years)</b>					
Under 18: 1 (0.27%)	18-24: 302 (81.18%)	25-34: 46 (12.37%)	34-44: 12 (3.23%)	45 up: 10 (2.69%)	No Answer: 1 (0.27%)
<b>Ethnicity</b>					
African-American: 11 (2.96%)	Anglo: 213 (57.26%)	Asian: 0 (0%)	Hispanic: 136 (36.56%)	Native American 4 (1.08%)	No Answer: 8 (2.15%)
<b>Highest Education</b>					
Less than High School: 7 (1.88%)	High School: 296 (79.57%)	Bachelor: 61 (16.40%)	Graduate: 5 (1.34%)	No Answer: 3 (0.81%)	
<b>Employment Status</b>					
Yes: 280 (75.27%)		No: 88 (23.66%)		No Answer: 4 (1.08%)	
<b>Income</b>					
Less than \$20,000 275 (73.92%)	\$20,000- 40,000 55 (14.78%)	\$40,000-60,000 15 (4.03%)	Greater than \$60,000 18 (4.84%)	No Answer 9 (2.42%)	
<b>Own Credit Card</b>					
Yes: 346 (93.01%)		No: 22 (5.91%)		No Answer: 4 (1.08%)	
<b>Credit Card Type Most Frequently Used</b>					
Visa: 241 (64.78%)	MasterCard: 89 (23.92%)	American Express: 15 (4.03%)	Discover: 9 (2.42%)	Others: 0 (%)	No Answer 18 (4.84%)
<b>Have Internet Access at Home</b>					
Yes: 342 (91.94%)		No: 29 (7.80%)		No Answer: 1 (0.27%)	
<b>Have Internet Access at Work</b>					
Yes: 226 (60.75%)		No: 125 (33.60%)		No Answer: 21 (5.65%)	
<b>Have Returned Product Purchased Online Before</b>					
Yes: 129 (34.68%)		No: 237 (63.71%)		No Answer: 6 (1.61%)	
<b>Number of Times Browsing a Website But Not Purchase (per month)</b>					
None: 38 (10.22%)	1-5 111 (29.84%)	6-10 99 (26.61%)	11 and up 120 (32.26%)	No Answer 4 (1.08%)	

For the Taiwanese subjects, the surveys were administered to Taiwanese consumers. Three hundred and twenty-nine (329) subjects completed and returned the survey instruments.

However, only three hundred and twenty-six (326) subjects had experience conducting online transactions. Details on the subjects' demographics are provided in Table 2 below.

**Table 2. Subjects' Demographics (Taiwanese).**

<b>Gender</b>					
Male: 124 (38.04%)		Female: 201 (61.66%)		No Answer: 1 (0.31%)	
<b>Age (in years)</b>					
Under 18: 0 (0%)	18-24: 200 (61.35%)	25-34: 100 (30.67%)	34-44: 20 (6.13%)	45 up: 4 (1.23%)	No Answer: 2 (0.61%)
<b>Ethnicity</b>					
African-American: 0 (0%)	Anglo: 0 (0%)	Asian: 324 (99.39%)	Hispanic: 0 (0%)	Native American 0 (0%)	No Answer: 2 (0.61%)
<b>Highest Education</b>					
Less than High School: 3 (0.92%)	High School: 8 (2.45%)	Bachelor: 253 (77.61%)	Graduate: 60 (18.4%)	No Answer: 2 (0.61%)	
<b>Employment Status</b>					
Yes: 201 (61.66%)		No: 122 (37.42%)		No Answer: 3 (0.92%)	
<b>Income</b>					
Less than \$20,000 45 (13.8%)	\$20,000- 40,000 114 (34.97%)	\$40,000-60,000 41 (12.58%)	Greater than \$60,000 16 (4.91%)	No Answer 110 (33.74%)	
<b>Own Credit Card</b>					
Yes: 149 (45.71%)		No: 21 174 (53.37%)		No Answer 3 (0.92%)	
<b>Credit Card Type Most Frequently Used</b>					
Visa: 124 (38.04%)	MasterCard: 24 (7.36%)	American Express: 0 (0%)	Discover: 0 (0%)	Others: 0 (0%)	No Answer 178 (54.60%)
<b>Have Internet Access at Home</b>					
Yes: 324 (99.39%)		No: 2 (0.61%)		No Answer: 0 (0%)	
<b>Have Internet Access at Work</b>					
Yes: 318 (97.55%)		No: 6 (1.84%)		No Answer: 2 (0.61%)	
<b>Have Returned Product Purchased Online Before</b>					
Yes: 89 (27.30%)		No: 233 (71.47%)		No Answer: 4 (1.23%)	
<b>Number of Times Browsing a Website But Not Purchase (per month)</b>					
None: 9 (2.76%)	1-5 124 (38.04%)	6-10 78 (23.93%)	11 and up 113 (34.66%)	No Answer 2 (0.61%)	

## DATA ANALYSIS AND DISCUSSION

The purpose of this study is to identify the cultural differences in the perceptions of online shopping between Americans and Taiwanese online shoppers. The participants consisted of three hundred seventy-two (372) Americans and three hundred twenty-six (326) Taiwanese consumers. The research data collected from the Taiwanese participants demonstrated a split-half reliability coefficient of 0.862, and the research data collected from the American participants demonstrated a split-half reliability coefficient of 0.906. The reliability measure for the Taiwanese and the American participants suggests the reliability of the data. It should be noted that these measures of reliability relate to the data resulting from the measurement instrument and not the instrument itself.

Statistical t-tests on the means were conducted on the participants' responses to the statements, "Overall, I prefer to shop online than in a physical store" and, "Overall, I feel comfortable transacting online." The results are listed below in Tables 3 and 4.

Based on the data, Americans appear to be significantly more comfortable transacting online than do the Taiwanese; although, there does not appear to be a significant difference between the Taiwanese and the Americans in their preference for shopping online. The results of the t-test on the participants' responses to the statement about preferring to shop online demonstrate that there is no significant difference between the American and the Taiwanese participants. On average, the Americans prefer shopping online slightly more than the Taiwanese. The five factors that influence online shopping will be examined below in an effort to identify any perceived differences between the Taiwanese and the Americans in their online shopping preferences.

**Table 3. H1 - Subjects' Perceptions on Shopping Online vs. at a Physical Store.**

	<b>American</b>	<b>Taiwanese</b>
Mean	2.905	2.874
Variance	1.164	0.627
Observations	370	326
t Stat	0.438	
P(T<=t) one-tail	0.331	
t Critical one-tail	1.647	

**Table 4. H2 – Subjects' Perception on Transacting Online.**

	<b>American</b>	<b>Taiwanese</b>
Mean	3.329	2.982
Variance	1.151	0.634
Observations	371	326
t Stat	4.888	
P(T<=t) one-tail	0.000**	
t Critical one-tail	1.647	

\*\* significance at p-value <= 0.01

In order to ensure the appropriateness for the grouping of each factor, factor analysis was used to verify the groupings (factors) of the items in the instrument against the established factors identified by previous studies from which the survey questions were drawn. The factor analysis successfully extracted five factors from the research data: perceived usefulness of online shopping; perceived ease of use of online shopping; past experience with online shopping; perceived security of online shopping; and perceived uncertainty of online shopping.

The first factor to examine will be that of the perceived usefulness of online shopping. Survey questions sought to determine any differences between the Americans and Taiwanese in perceived usefulness specific to online shopping. Table 5 below shows that there was no statistical difference between the two groups at the *p-value* level of 0.05.

**Table 5. H3 – Subjects' Perception of Usefulness of Online Shopping.**

	<b>American</b>	<b>Taiwanese</b>
Mean	3.618	3.699
Variance	0.542	0.323
Observations	372	326
t Stat	-1.638	
P(T<=t) one-tail	0.051	
t Critical one-tail	1.647	

Both the Taiwanese and the Americans perceive the usefulness of online shopping to include benefits such as online shopping being less time-consuming, offering lower prices, being more convenient, and offering the capability to find rare items generally unavailable in offline stores. This supports the finding that there is no significant difference between the two groups in terms of their preference for online shopping.

Both the Taiwanese and the Americans perceive the ease of use with which they conduct online shopping (see Table 6). There was no significant difference between the responses by the two groups in terms of being able to easily compare products and prices online, being able to find what they were looking for online, finding it easier to go to many online shops versus having to drive to many physical stores, and also easier to pay online versus having to wait in the checkout line at a physical store. This result supports the finding that there is no significant difference between the two groups regarding their preference for online shopping.

**Table 6. H4 – Subjects' Perceived Ease of Use of Online Shopping.**

	<b>American</b>	<b>Taiwanese</b>
Mean	3.686	3.623
Variance	0.662	0.360
Observations	372	326
t Stat	1.177	
P(T<=t) one-tail	0.121	
t Critical one-tail	1.647	

Prior online shopping experience has been shown to influence whether or not a consumer will continue to shop online (Shim et al., 2001). Consumers that have positive experiences with online shopping are likely to continue to shop online in the future. In examining the past online shopping experiences of consumers, this study collected responses regarding whether the online shopper was satisfied with previous purchases; for instance, whether they received the correct product, whether they receive their order in a timely manner. It also asked if they usually have good experiences with their online shopping.

The results listed in Table 7 demonstrate that the Taiwanese ranked their prior experience with online shopping significantly lower than that of the Americans. This significant difference suggests that the Taiwanese are usually less satisfied with the products they purchased online, perhaps because they did not receive the right product ordered or because the product was not delivered in a timely manner. Despite their more negative past experiences with online shopping, this does not seem to deter the Taiwanese from preferring to shop online.

Nevertheless, this finding could be contributing to the significant difference between the two groups in terms of level of comfort with online shopping.

**Table 7. H5 – Subjects’ Past Experience with Online Shopping.**

	American	Taiwanese
Mean	3.780	3.318
Variance	0.505	0.401
Observations	372	326
t Stat	9.460	
P(T<=t) one-tail	0.000**	
t Critical one-tail	1.647	

\*\* significance at p-value <= 0.01

While, on average, the American online shoppers are uncertain about the security factor of shopping online, the Taiwanese perceive the security of online shopping to be significantly lower than that perceived by the Americans (see Table 8). Laforet and Li (2005) found that security was the most important factor that motivated the Chinese to adopt transacting online. Although there are differences between mainland Chinese and Taiwanese, they do share many commonalities. The finding that the Taiwanese perceive the security of online shopping to be significantly lower than the Americans do poses a major hurdle that online companies will need to overcome to gain more Taiwanese online shoppers. Although this finding does not deter the Taiwanese from shopping online, it may be contributing to a significantly lower feeling of comfort when the Taiwanese involve themselves in online transactions.

**Table 8. H6 – Subjects’ Perceived Security of Online Shopping.**

	American	Taiwanese
Mean	3.012	2.707
Variance	0.723	0.422
Observations	372	326
t Stat	5.350	
P(T<=t) one-tail	0.000**	
t Critical one-tail	1.647	

\*\* significance at p-value <= 0.01

Along with their concerns of security with online shopping, the Taiwanese also express a significantly higher level of perceived uncertainty with online shopping when compared to the Americans. Table 9 lists the results of the t-test comparing the Americans and the Taiwanese level of perceived uncertainty with online shopping. With perceived uncertainty being the belief of possible negative consequences, such as not receiving the correct product or not receiving the product in a timely manner, resulting from online transacting, the perceived uncertainty of online shopping could be influenced by the lower level of past experience with online shopping expressed by the Taiwanese. This factor may also be contributing to a significantly lower level of comfort being felt by the Taiwanese when transacting online.

**Table 9. H7 – Subjects' Perceived Uncertainty of Online Shopping.**

	American	Taiwanese
Mean	3.156	3.827
Variance	0.779	0.457
Observations	372	326
t Stat	-11.362	
P(T<=t) one-tail	0.000**	
t Critical one-tail	1.647	

\*\* significance at p-value <= 0.01

## CONCLUSION

This study examined the differences and similarities between Taiwanese and American online shoppers in terms of the preference to shop online and their perceptions of online shopping in terms of five factors that have been shown to influence online shopping. The five factors examined include: 1) perceived usefulness of online shopping; 2) perceived ease of use of online shopping; 3) past experience with online shopping; 4) perceived security of online shopping; and 5) perceived uncertainty of online shopping. The participants in this study included three hundred twenty-six (326) Taiwanese and three hundred seventy-two (372) Americans.

There was no significant difference found between the Taiwanese and the Americans in their preference for online shopping. Additional findings for this study showed that both the Taiwanese and the American online shoppers perceived that the benefits of online shopping included the possibility of finding better prices, more selection of products, and that online shopping was less time consuming than shopping in a physical store. Both groups of online shoppers also perceived online shopping as being easy to use in terms of online shopping being: easier to compare products and prices, easier to find the right product, easier to pay, and having the ability to avoid the hassles of traffic, and long lines.

The finding that the Taiwanese preferred online shopping over shopping at a physical store at almost the same level as the American participants was inconsistent with the finding that, overall, the Taiwanese reported having more negative past experiences with online shopping. In addition, the Taiwanese perceive online shopping as being less secure than the Americans do. Also, the Taiwanese perceive a higher level of uncertainty with online shopping than the Americans. Despite the perceived short comings of online shopping, the Taiwanese prefer online shopping to shopping in physical stores at about the same level as their American counterparts. Nevertheless, the significant differences between the two groups in terms of online shopping security, perceived uncertainty, and past experiences with online shopping could be contributing to the finding that the Taiwanese are significantly less comfortable transacting online than are their American counterparts.

Not all values are adequate for every country; there are always some differences between dissimilar countries. This study contributes to current literature by examining perceived differences between Americans and Taiwanese as these two nationalities usually have different approaches in handling things. So, it is interesting to see how these cultural differences influence their preference in regard to online shopping. More research is needed with respect to cultural differences in online shopping. Research concerning other cultural dimensions of these two ethnic groups would continue to contribute to the growing research area of online retailing and facilitate growth of the online marketplace in terms of creating viable offerings to a diverse internet population.

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