Smart Phone Users’ Satisfaction for Online Shopping: An Analysis Based on the Transaction Process Model*

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Abstract
Although the fast advancing smartphone technology makes connectivity possible for shoppers to reach almost any online shopping mall, it does not ensure success in the development of an online shopping platform for smartphone technology. This research studied the buyers’ perception about mobile shopping through smartphones. The variables identified by the transaction process model are utilized for constructing the model for this study. The survey was carried out among smartphone users. Based on existing literature, a conceptual framework of smartphone user satisfaction was also developed to investigate the relationship between the factors for smartphone usage relative to smartphone user satisfaction while doing online shopping transactions. To find out the effect of cultural differences on the perception of shoppers from two different countries (i.e. Korea and the U.S.) in terms of mobile shopping through smartphones, more than a hundred respondents from both countries were selected and then their perceptions for smartphone online shopping from each culture were compared. The multiple metric dependent variables which are adopted from the transaction process model and the non-metric independent variable, (i.e. nationality) were analyzed through the use of ANOVA. The results of this study showed that the smartphone shoppers from each country have differences in the negotiation process and in post-sales-service process out of the variables suggested.

Keywords: Cultural Differences, Smartphone Shopping, User Perception
JEL Classifications: L63, L81, M15, Q33

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I. Introduction

Mobile shopping, a form of internet shopping which utilizes mobile devices such as smartphones, has grown substantially during the past few years. While the term e-commerce refers to all online transactions, B2C stands for “business-to-consumer” and applies to any business or organization that sells its products or services to consumers over the Internet for his or her own use (Patton, 2001). A tremendous amount of increase in the number of mobile access around the world has been the main driving force for the growth of mobile shopping. However, the latest estimated figures of the number of people online in each language zone shows that non-English online populations are taking greater part in the global internet society. According to the research by Commerce. Net (2001), 68% of online users will be outside of North America by 2005. United States consumers spent $37.44 billion in 2013 on retail purchases made via smartphones and tablets, up from $23.72 billion in 2012, according to a report by eMarketer (2013). But an increase in sales does not tell the whole story. Even when shoppers do not buy through mobile phones or smartphones and instead turn to the computer or a store to make a final purchase, these devices still play a critical role in the purchase funnel.

Although the fast advancing information infrastructure makes connectivity possible in almost anywhere in the world, it does not necessarily ensure a successful development of mobile shopping for every country. The challenge does not come only from the technology, but also from the people who do the business through the mobile device and the cultural environment in which the businesses operate. The important factor that could deter the diffusion of mobile commerce can be the difference in the cultural background in various parts of the world. Hofstede (1983) stated that, given the same stimulus, the people from one cultural background could react differently compared to the people from another cultural background.

This research studied the buyers’ perception about mobile shopping through smartphones. The variables identified by the transaction process model (Liang and Huang, 1998) are utilized for constructing the model for this study. The survey was carried out among smartphone users. Based on existing literature, a conceptual framework of smartphone user satisfaction was also developed to investigate the relationship between the factors for smartphone usage relative to smartphone user satisfaction while doing online shopping transactions. The factors identified by the transaction process model are used to develop the framework to measure smartphone user satisfaction in a smartphone shopping environment. To determine the effect of cultural differences on smartphone-based online shopper satisfaction, shoppers from two countries with different cultural backgrounds (i.e. United States and Korea) were chosen. The perceptions on smartphone-based online shopping of U.S. online shoppers were then contrasted with those of Korean online shoppers.

II. Research Background

A smartphone is a mobile phone with more advanced computing capability and connectivity compared to phones with basic
feature. Early smartphones typically combined the features of a mobile phone with those of another popular consumer device, such as personal digital assistant (PDA), media player, digital camera, and GPS navigation unit. Modern smartphones include all of those features plus the features of a touchscreen computer, including web browsing, Wi-Fi, and third-party applications. Currently, about 90% of handset sales worldwide are for devices powered by Google’s Android and Apple’s iOS mobile operating systems.

Recent study indicates that non-English speaking population is taking a larger part in online society. Even though the information technology such as smartphone technology makes the world smaller than before, it does not necessarily mean a successful development of smartphone shopping for every country. The challenge might not only come from the technology, but also from the culture in which people do shopping through the smartphone. The critical factor that could deter the diffusion of mobile shopping through smart phone could possibly be the different cultural background in each part of the world. Hofstede (1983) indicated that, for the same stimulus, people from one culture could react differently to people from another culture.

This study investigated the problems concerning the diffusions of smartphone shopping for two different cultures. It also looked at the transaction variables that influence them. As mobile technology made the world smaller and more convenient, research areas such as mobile shopping through smart phones become new subjects for research. However, studies dealing with the factors influencing mobile shopping behavior have been given cursory attention. In addition to that, most of the studies on mobile shopping have been done in the U.S. and it focused on its population. Yet, theories in sociology, psychology, and behavioral science suggest a theory that applies in one culture but does not necessarily apply in other cultures (Hofstede, 1988). Thus, it is suggested that mobile shopping research should examine the impacts of the technology in different countries with dissimilar cultural backgrounds.

This study identified the model of smartphone shopping between shoppers with two different cultural backgrounds and also investigated the particular variables that facilitate or hinder smartphone shopping behavior in each culture. To achieve these objectives, the following questions were made for this study. (1) What are the variables that influence the diffusion of U.S. and Korean smartphone-based online shopping? (2) Are there any differences between the U.S. and Korean smartphone shoppers relative to their smartphone-based online shopping? (3) If there are any differences, how differently do particular variables influence smartphone shoppers in each country?

The diffusion of smartphone-based online shopping in the rest of the world can thus differ in terms of cultural background. Hofstede (1983) stated that people with one cultural background could react differently to the same stimulus compared to people with another cultural backgrounds. Thus, culture plays an important role in determining the factors which influence the shopping behavior. Hofstede (1980) developed four dimensions of national culture which are power distance, uncertainty avoidance, individualism, and masculinity.

III. Review of Literature

The concept of mobile commerce is to deliver
business content and services through mobile platforms. Using the mobile phone browsers, the shoppers perform many time-critical tasks such as checking merchandise’s price, ordering merchandise, and paying for merchandise. Even though web services have many benefits, many success factors and constraints need to be considered for mobile commerce. From the late 1990s, literatures have identified the success factors and constraints to the adoption of internet commerce. As followed literature review will show, different studies have done for the success factors and constraints to mobile commerce adoption.

Vrechopoulos et al. (2002) proposed six critical success factors for accelerating mobile commerce diffusion in Europe: Ease of Use, Security, Support, Price, and Comfort of the Device. It is often suggested that the main factors affecting mobile commerce adoption decisions are associated with ease of use and security features. According to this, consumers will be driven towards mobile commerce by the fact that what was previously simply a phone will now turn into a personal trusted device, through which all kinds of commercial activities and transactions can be managed. Of these factors, the security is perhaps the most widely cited too. Many authors also contended that lacking privacy and security could be a major constraint to the growth of mobile commerce (Langendoerfer, 2002). Such contentions are also supported by empirical evidence.

Findings from a Finland-based survey by Andkar et al. (2003) suggest Operating and Initial Cost, Data Transfer, Privacy, and Usefulness of Service will be the most critical factors for consumers to use mobile internet applications. Harris et al. (2005) found that significant factors of the mobile commerce in Hong Kong are the Frequency, Usefulness, Satisfaction, and Cost. Langendoerfer (2002) posits that technological issues such as the lack of infrastructure and mobile device will not be the major problem of mobile commerce, but that psychological aspects—especially privacy concerns—will be the reason why mobile commerce will not take off. Sluster (2001) speculates that pricing certainly will have an impact on adoption. The Online Publishers’ Association (2007) recently published research which analyses the biggest sources of dissatisfaction amongst mobile internet users. They found that the greatest problems are site load time, site navigation, and user friendliness.

Culture is a shared system of meanings that dictates what we pay attention to, how we act and what we value (Trompenaars and Hampden-Turner, 1998). National culture is collective programming of the mind that distinguishes one nation from another (Hofstede, 1998). In order to develop an appropriate cultural study model of user satisfaction for smartphone shopping, Hofstede’s model of national culture is used for applying the difference of subjective norm for Internet shoppers in different cultures.

The five dimensions from Hofstede (1980/1991) is the most commonly used model in the field of international management and international marketing (Shadkleton and Ali, 1990; Barkema and Vermeulen, 1997; Schuler and Rogovsky, 1998). Cultural dimensions are defined as follows.

(1) Power distance: Power distance refers to the centralization of authority within the organization. Large power distance means that members of the organization accept the inaccessibility of their superiors. Small power distance means that members expect their
leaders to be similar to themselves. Thus, the member of high power distance society would likely to follow the behavior of their superior.

(2) Individualism/collectivism: Individualism refers to emotional independence from organizations and groups, while collectivism refers to a tight social framework. Individualists prefer to act and work alone, while collectivists prefer to act and work as members of a group.

(3) Masculinity/femininity: Masculinity refers to the extent that “tough” values, such as competition and assertiveness, prevail over “tender” values, such as nurturing and quality of life. In feminine societies both men and women have strong nurturing values.

In masculine societies, men are even more assertive, so that gender roles differ to a greater extent.

(4) Uncertainty avoidance: Uncertainty avoidance refers to the degree that people are uncomfortable with ambiguity. People in high uncertainty avoiding societies are more nervous when faced with unstructured situations. They like to adhere to strict rules, safety and security measures and a belief in the absolute truth.

(5) Long-term orientation: Long-term orientation refers to a set of ethical values for daily life. Long-term orientation represents the values of persistence, perseverance, status and thrift, saving for the future and having a sense of shame. In contrast, short-term orientation values personal steadiness and stability, protection of your image, respect for tradition, concern for the past and present, good manners and the trading of gifts, greetings and favors.

Smartphone shopping is defined as the purchase of products and services over the internet through smartphone. Since there is a huge difference between making a purchase in traditional markets and in electronic markets, it is very important to know what features the smartphone can offer to the customer that is unavailable through conventional means. Smartphone shopping shares important characteristics with traditional shopping. Some of the components categorized for traditional shopping were merchandise, service, promotion, and convenience (Lindquist, 1974-75). Among these, Arnold et al. (1997) extended their study to convenience component and identified convenient attributes such as a fast checkout and the ease of navigating through the store. Based on these researches, Liang and Huang (1998) developed seven variables, which measure the shopper’s perception on the convenience of transaction in Internet shopping <Table 1>.

In this research, a model was developed based on the seven-step process model to find factors that may affect a customer’s decision.

| Table 1. Seven-step Transaction Process Model |
|----------------------------------------------|
| **Seven Step Process** | **Definition** |
| Search | Search for relevant product or service information |
| Comparison | Compare prices or other attributes |
| Examination | Examine the products to be purchased |
| Negotiation | Negotiate terms, e.g., price, delivery time, etc. |
| Order and Payment | Place an order and pay for it |
| Delivery | Delivery of products from the seller to the customer |
| Post-service | Customer service and support |

Source: Liang and Huang (1998).
to purchase from electronic stores. The transaction cost is decomposed to seven stage variables to measure the overall transaction in Internet shopping.

In a survey by Dataquest, analysts found that when rating online purchasing, the ease of placing orders or making reservations online outweighs problems with customer service and delivery. Nonetheless, the report warns that providing quality customer service will be a key to gaining a competitive advantage in the marketplace. An inability to contact the vendor’s customer service department via email was cited by a quarter of those households that experienced purchasing difficulties.

Bhatnagar et al. (2000) found that the internet is still seen as a risky proposition, and such risk out weighs the convenience that it offers. They identified several convenience factors by the result of factor analysis<Table 2>. The factors included following: convenience of service and after-sales support, convenience of product order and cancel order, convenience of product choices, convenient of payment procedure and price advantage.

## IV. Conceptual Framework

Building the user satisfaction construct is one of the most important issues on information systems user satisfaction. However, the major concerns noted in the recent studies on reliable measurements in information systems research were inadequate construct development and lack of valid reliable measurement (Bailey and Pearson, 1983; Ives, Olson and Baroudi, 1983; Melon, 1987). The explanation for the lack of progress in the information systems area is the lack of conceptual development offered by studies investigating the relationship between user satisfactions and IS success (Woodroof and Kasper, 1998). A single construct, apart from its relationship to other constructs, does not facilitate prediction even if the constructs had been developed, and contributes minimally to science (Melon, 1987). Many

### Table 2. Result of Factor Analysis (Convenience Factors)

| Statement for asking perceived convenience in Internet shopping | Factor Loadings |
|---------------------------------------------------------------|-----------------|
| Web vendors provide better customer service and after sales support | 0.713 |
| Web vendors are more reliable | 0.710 |
| It is easier to cancel orders with Web vendors | 0.657 |
| Web vendors deliver orders/services in a more timely manner | 0.634 |
| It is easier to place orders with Web vendors | 0.603 |
| It is easier to contract Web vendors | 0.598 |
| Web vendors offer more useful information about checks | 0.589 |
| Web vendors have simpler payment procedures | 0.578 |
| Returns and refunds are easier with Web vendors | 0.550 |
| Web vendors offer better prices | 0.506 |

Source: Bhatnagar et al. (2000).
researchers have emphasized the importance of developing standardized instruments for measuring user satisfaction (DeLone and McLean, 1992).

In this research, a model was developed based on the seven-step process model to find factors that may affect a shopper’s decision to purchase through smartphone. The transaction cost is decomposed to seven stage variables to measure the overall transaction in online shopping. These variables included: convenience of product search, convenience of product comparison, convenience of product examination, convenience of negotiating with vendor, convenience of order and payment, convenience of getting delivery and convenience of getting post-purchase service.

User satisfaction is defined as the extent to which users believe the information system available to them meets their information requirements. User satisfaction is considered one of the most important measures of information systems success (DeLone and McLean, 1992; Ives and Olson, 1984). Employing user satisfaction in the evaluation of Information Systems effectiveness is certainly well established in many literatures.

Social psychologists attempt to understand the link between attitudes and behavior by focusing on the relationship between cognitions about the behavior and the creation of attitudes and/or intentions toward behavior. One of the popular approaches is the theory of reasoned action (Adjen and Fishbein, 1980). According to this theory, a person’s behavior can be predicted form the person’s attitude toward the behavioral action. Although this theory was not explicitly discussed in the context of information system, such thought can represents the IS user’s attitudes as a multi-attributes belief structure.

According to TRA, a person’s performance of a specified behavior is determined by his or her behavioral intention (BI) to perform the behavior, and BI is jointly determined by the person’s attitude (A) and subjective norm (SN) concerning the behavior in question.

\[
BI = A + SN
\]

BI is a measure of the strength of one’s intention to perform a specified behavior. A is defined as an individual’s positive or negative feelings about performing the target behavior (Fishbein and Ajzen, 1975). Attitude is defined as a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly and Shichen, 1993). Attitude in this model included mobile device user’s attitude. Subjective norm refers to “the person’s perception that most people who are important to him think he should or should not perform the behavior in question” (Ajzen and Fishbein, 1975).

Based on the model suggested by the studies, a conceptual framework of the user satisfaction for smartphone shopping has been developed to investigate Korean and the U.S. mobile users. In using smartphone technology, it is important to know what factors the devices can offer to the users. Some of the critical factors for the smartphone technology were identified by investigating existing researches. The variables used in this model which influence the user's attitude or perceived value are the transaction variables identified from the seven step transaction process model.

Korea differs from the U.S. on all five of Hofstede’s cultural dimensions (Hofstede,
Because of these differences, there might be differences in how the smartphone shoppers of two countries perceive the convenience of the shopping process defined by the transaction process model. Fig. 1 illustrates the theory of reasoned action used as a reference model for this study.

A conceptual framework of the study was developed to investigate the behavior of mobile shoppers. The relationships described by the theory of reasoned action (Ajzen and Fishbein, 1980) and other studies of information user satisfaction were used to develop the model of the mobile buyer’s behavior in an Internet shopping environment. Based on the theory of reasoned action, the conceptual model of this study was developed.

The five dimensions model of cultural difference from Hofstede (1980/1991) was also used to provide the subjective norm for Internet shoppers. The external variables were collected from literature studies and used in this model as specified on Fig. 2. The variables identified were the following: searching for the products, comparing products, examining products, negotiating with vendors, placing order, paying for the product, receiving product, and getting service from the vendor after the sale.

Attitude is defined as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly and Shieken, 1993). Attitude in this model included Internet user’s attitude about mobile shopping.

Subjective norm refers to “the person’s perception that most people who are important to him think he should or should not perform the behavior in question” (Fishbein and Ajzen, 1975). Subjective norm in this model can be distinguished for the...
Internet shoppers in two different cultural backgrounds.

As a result, seven major hypotheses were developed based on the seven steps in transaction process model.

**H1:** There are no differences between experienced U.S. Internet shoppers and experienced Korean shoppers in terms of their perception on the convenience of product search in smartphone shopping.

**H2:** There are no differences between experienced U.S. Internet shoppers and experienced Korean shoppers in terms of their perception on the convenience of product comparison in smartphone shopping.

**H3:** There are no differences between experienced U.S. Internet shoppers and experienced Korean shoppers in terms of their perception on the convenience of the product examination in smartphone shopping.

**H4:** There are no differences between experienced U.S. Internet shoppers and experienced Korean shoppers in terms of their perception on the convenience of negotiating with the vendor in smartphone shopping.

**H5:** There are no differences between experienced U.S. Internet shoppers and experienced Korean shoppers in terms of their perception on the convenience of ordering and paying product in smartphone shopping.

**H6:** There are no differences between experienced U.S. Internet shoppers and experienced Korean shoppers in terms of their perception on the convenience of receiving for the product in smartphone shopping.

**H7:** There are no differences between experienced U.S. Internet shoppers and experienced Korean shoppers in terms of their perception on the convenience of getting after sale service in smartphone shopping.
V. Research Methodology and Findings

Conducting a survey on the smartphone users presents a unique problem. At the heart of the issue is the methodology used to collect responses from individual users. Since there is no central registry of all Internet users, to contact every user of the smartphone is neither practical nor feasible financially. As such, the surveys attempt to answer questions about all users by selecting a subset of users to participate in the survey. In order to reach a proper subset of smartphone shoppers, more than 124 experienced and 143 inexperienced shoppers in the U.S. and Korea were chosen. University students in the College of Business in University of North Carolina were chosen for the U.S. sample and Dankook University for the Korean sample were chosen since they were thought to be as homogeneous groups of sample. Selecting sample out of university students were used since it is relatively convenient to collect sample in any classroom environment in both countries. Also, the statistics by GVU Center at Georgia Tech. University suggested that the most experienced online users were between 21 and 30 years old, which was the age range of most college students. Subjects were all volunteers who were interested in online purchase and they were clearly told that their response to these questions would be kept strictly confidential.

The questionnaire was designed to ask users' opinion on the variables in the smartphone shopping. A five-point Likert scale was employed, with “Strongly disagree” on one extreme and “Strongly agree” on the other. The questionnaires are included on the variables from the transaction process model. These examine smartphone user satisfaction with a five-point Likert scale. The content was measured by responding to the following statement. “The search process of mobile shopping using a smartphone is better than that of offline shopping in terms of convenience of the shopping process.” Next, the comparison of the product process is also recorded on a five-point scale ranging from “Strongly disagree” to “Strongly agree.” The statement, “Using smartphone for shopping is relatively easy for product comparison for shopping,” was used to test the user's perception on the factor. The smartphone shopper's perception on the product examination was measured by responding to the following statement, “The product examination using smartphone is more satisfactory than that of offline shopping.” The shopper’s perception on the negotiation process was measured on a five-point scale ranging from “Strongly disagree” to “Strongly agree. The statement, “Using smartphone for price negotiation for the price of the product is relatively easy,” was used to test the smartphone user's perception on the factor. The order and payment process of shopping is to test the users' perceptions in terms of convenience in the order and payment process of smartphone-based online shopping compared to the offline shopping process. Based on the transaction process model, all variables are measured on a five-point Likert scale on which respondents indicated the level of satisfaction with smartphone-based online shopping.

Before comparing the variables which explain the differences of the perceptions of smartphone shoppers, factor analysis was utilized. A principal axis factoring with
Table 3. Results of the Lambda Statistics

| Test                      | Value  | p-level  |
|---------------------------|--------|----------|
| Wilks’ Lambda             | .56575 |          |
| Rao R                     | 20.56745 | .000000 |
| Pillai-Bartlett Trace     | .89045 |          |
| V                         | 21.56434 | .000000 |

Varimax rotation extracted the underlying dimensions of variables. To determine the optimum number of factors, the Scree plot test was used. The results of factor analysis tended to show no possible groups in the variables of experienced group and inexperienced group. Wilks’ Lambda test, Rao R test, Pillai-Bartlett Trace test, and V agree test with appropriate degrees of freedom and p-level also indicated that the null hypothesis of the equality of the group means had been rejected at the 0.05 level of significance (p-value > 0.001). These results of MANOVA indicated that two groups are significantly different in their perception on each variable in the group. The U.S. and Korean smartphone shoppers were significantly different in their perception on the productivity of on-line shopping.

The next test performed were the lambda statistics that test whether any of the dependent variables vary significantly according to country. The implication of the lambda statistic was that the smaller the value of the lambda statistics, the greater the implied statistical significance between the group centroids. Wilks’ Lambda test, Rao R test, Pillai-Bartlett Trace test, and V agree test with appropriate degrees of freedom and p-level indicated that the null hypothesis of the equality of the group means had been rejected at the 0.05 level of significance (p-value > 0.001). These results of MANOVA indicated that U.S. and Korean internet buyers are significantly different in their perception on each variable in the group <Table 3>. U.S. and Korean Internet shoppers were significantly different in their perception on the convenience of smartphone shopping.

Analysis of variance (ANOVA) was used to examine whether there were significant differences between these two groups in terms of their perception on convenience of transaction in smartphone shopping. One-way ANOVA for single non-metric independent variable and two metric dependent variables were performed for those three groups. The two countries represented the non-metric independent variable, and convenience of transaction variables represented metric dependent variables for each analysis.

As seen in <Table 3>, each F-value on the ANOVA table indicates that there are differences between the smartphone shoppers in the two countries in all variables except negotiation and post-service variables. Compared to U.S. shoppers, Korean smartphone shoppers were more likely to agree with the idea that negotiation and post-service process in smartphone shopping was not satisfactory compared to those of the traditional way of shopping.

The results of ANOVA indicated that smartphone shoppers with different cultural background were significantly different in their perception on two variables identified – negotiation and post-service. There were differences between the shoppers in the two groups in those variables according to the
Table 4. ANOVA for the Variables

| Variable         | Mean square | Error     | F (df1,2) | p-level |
|------------------|-------------|-----------|-----------|---------|
| Search           | 11.37824    | .808744   | 15.47833  | .000000 |
| Comparison       | 10.37319    | .856029   | 12.11781  | .000000 |
| Examination      | 25.89250    | .907036   | 28.54629  | .000000 |
| Negotiation      | 5.29625     | 1.148564  | 4.61120   | .032904 |
| Order&Pay        | 20.23063    | .818256   | 24.72406  | .000000 |
| Delivery         | 13.2365     | .765984   | 45.49544  | .000000 |
| Post Service     | 4.48733     | 1.43985   | 6.48364   | .004985 |

F-values on the ANOVA results <Table 4>. Compared to U.S. shoppers; Korean smartphone shoppers were less likely to agree with the idea that service with negotiation and post-service are more favorable for their shopping satisfaction. However, other variables did not make much difference in the satisfaction level. The consumers with smartphone access can have opportunities to search products without time and location constraint. Therefore, the traditional shopping environment can be affected greatly by smartphone-based online shopping.

VI. Conclusion

As Straub and Gefen (1997) indicated that; (1) those in high power distance may avoid media that do not allow face-to-face contract (2) those in more individualistic cultures are more likely to use electronic media (3) those in high uncertainty avoidance cultures should use electronic media less favorably. Based on the research, subjects from the more individualistic, low power distance, and low uncertainty avoidance culture of the U.S. were expected to view smartphone shopping more favorably than those from Korea. These expectations were found to be generally true in the case of U.S. and Korean mobile buyers. Individualist societies place greater emphasis on being independent, self-motivated, and self-interested (Elashmawi and Harris, 1993). Individualists such as US shoppers seem more comfortable with the impersonal mode of communication and information gathering that is associated with smartphone shopping. Individualism is expected to be positively related to perceived usefulness of the smartphone and its subsequent use. As expected, the results of this study on the perception of the shoppers in two different countries showed that the U.S. shoppers rated the following variables favorably: negotiation and post-service of the shopping process through smartphone usage. Masculine society is more concerned with the usefulness of given technology, regardless of whether it is easy or difficult to use (Straub and Gefen, 1997). The prediction that masculine societies such as the U.S. society would show more concern on the convenience of smartphone shopping was seen in this study. Larger power distance explains that followers respect authority figures and prefer clear rules and directions from above (Hofstede, 1980). Small power distance explains that followers related to their leaders as equals are more involved in decision making. Since Koreans lean more towards heavy reliance on clear rules and
Table 5. Summary of Research Findings

| Research Hypotheses | Expected Findings | Findings |
|---------------------|-------------------|----------|
| There are no differences between the U.S. shoppers and Korean shoppers in terms of their perception on the search process through smartphone for the shopping. | Supported | Supported |
| There are no differences between the U.S. Internet shoppers and Korean shoppers in terms of their perception on the comparison process through smartphone for the shopping. | Supported | Supported |
| There are no differences between the U.S. Internet shoppers and Korean shoppers in terms of their perception on the examination process through smartphone for the shopping. | Supported | Supported |
| There are no differences between the U.S. shoppers and Korean shoppers in terms of their perception on the negotiation process through smartphone for the shopping. | Supported | Not Supported |
| There are no differences between the U.S. shoppers and Korean shoppers in terms of their perception on the order and payment process through smartphone for the shopping. | Supported | Supported |
| There are no differences between the U.S. shoppers and Korean shoppers in terms of their perception on the delivery process through smartphone for the shopping. | Supported | Supported |
| There are no differences between the U.S. shoppers and Korean shoppers in terms of their perception on the post-sales-service process through smartphone for the shopping. | Supported | Not Supported |

directions in large power distance societies, satisfaction of smartphone shopping for Koreans was negative on most variables presented in the study.

The mobile technology might create high uncertainty avoidance for its users. In cultures with high uncertainty avoidance, people are more nervous about learning new skills (Hofstede, 1991). Since the nature of the smartphone affects potential shoppers in uncertain ways, the prediction was that uncertainty avoidance was negatively related to the perception on smartphone shopping. As anticipated, Korean shoppers who are high in uncertainty avoidance showed a lower level of smartphone preference for some variables presented.

The perception of smartphone shopping for Korean shoppers was expected to be negative on most of variables presented in the study. The internet creates high uncertainty avoidance for its users. In cultures with high uncertainty avoidance, people are more nervous about learning new skills (Hofstede, 1991). Since the nature of the smartphone affects potential shoppers in uncertain ways, the prediction was that uncertainty avoidance was negatively related to the perception on mobile shopping. As predicted, Korean shoppers who are very high in uncertainty avoidance showed a lower level of Internet preference for every variable presented in the study.<Table 5>.

For the retailing businesses, the multiplicity of consumer shopping behavior, as well as identifying methods of increasing customer satisfaction should be emphasized. Enhancing the satisfaction of the shopping experience is getting more attention from academics and industries. This study provided on-line marketers a better understanding on how they are able to meet consumer's needs and to
develop markets in different smartphone shopping experience.

Online marketers will be successful by increasing consumer satisfaction in online shopping for the verified variables would positively affect online transactions. With such accelerated effort, online business enterprises can develop better marketing platforms and strategies.

There are also some limitations to this study. First, the respondents should include the actual smartphone shoppers in both countries. Even though some research suggested that the most experienced online users were between 21 and 30 years old, college students might not include the entire population of online shoppers. Second, only limited satisfaction factors were included to predict smartphone shopping behavior. Individual influences, such as age, sex, and situational variables are not included in this study. Further studies should include how individual differences influence smartphone shopping behavior. Third, recreational motivations for smartphone shoppers could be related to their shopping preference. Shim and Mahoney (1991) found that electronic shoppers were more likely to be recreational shoppers, suggesting that electronic shoppers consider online shopping to be entertaining. Therefore, a deeper understanding about smartphone shoppers can be obtained by investigating recreational motivation of shoppers. Last, this study adopted Hofstede’s cultural dimensions as a paradigm to explain the influence of culture on the patterns of online shopping. Because culture is the acquired knowledge that people use to interpret experience, form values, create attitudes, and influence behavior, culture was related to the attitudes and behaviors of Internet shoppers (Hodgetts and Luthans, 2000). However, results need to be interpreted with caution since the characteristics of the cultures of countries are changing rapidly. Thus, regularly analyzing the cultural characteristics may be desirable in future studies about smartphone shoppers.

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