A CROSS-CULTURAL INVESTIGATION OF CONSUMER MEDIA CHOICE

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ABSTRACT

Information Communication Technology (ICT) continues to expand, creating new ways to communicate and conduct business. Consumers have more choices than ever before. They can conduct business at any time and any place using a traditional brick-and-mortar store, a land-line telephone, an Internet connection over a PC or a mobile (cell) telephone.   A survey was conducted on 195 individual consumers in China and US. There were several significant results showing that the consumers' security concerns, privacy perceptions, innovativeness, individual characteristics, culture dimensions and tasks types played an important role in their decision to use certain media. The results also show significant differences in consumers' media choice in the two cultural settings. The findings provide practitioners specific information to identify and target groups of consumers who have a strong preference for specific commerce media.

INTRODUCTION

Information Communication Technology (ICT) continues to expand, creating new ways to communicate and conduct business. Many studies have examined why people select one communication medium over another (Daft and Lengel, 1986; Lee, 1994). Previous research has conducted experiments to compare face-to-face communication with telephones, e-mail, postal mail, and fax machines. Today, the average person has several choices when it comes to communicating or conducting business. While there is always the option of dealing with someone face-to-face, one can also e-mail, fax, write a letter, call on the telephone or call on a mobile phone or Blackberry.

Research articles have been written on the reasons people select a particular form of communication medium over another. Several factors have been found in prior literature as determinants of people's media choice. Some researchers suggest that the amount of richness inherent in a medium is the reason people select it. Most people agree that face-to-face is the richest medium, since people not only hear the message, but also receive other signals in the form of facial expressions, tone and body language. Some say that the task or urgency is the primary determinant. Straub (1998) determined that workers, who needed to communicate information immediately, chose an electronic method such as email since it also kept a record of time and history of conversation. Other factors that have been suggested are the user's social environment and the fit between the task and the medium. In addition, the theoretical relationship between individual characteristics and intention to use certain types of technology has been discussed in many social, psychological, management and MIS studies. Besides, consumer innovativeness, security and privacy perceptions are also viewed as important factors affecting media choice.

Consumers now have more choices than ever before. They can conduct business at any time and any place using a traditional brick-and-mortar store, a land-line telephone, an Internet connection over a PC or a mobile (cell) telephone.   Consumers own personal characteristics seem to influence their choice of media. Comparative studies suggest a relationship between culture and technology use (Straub, 1994; Carlson et al., 1999). In an increasingly global world, many practitioners are also faced with the challenge of offering usable and useful applications to the local users (Khaslavsky, 1998). Numerous factors contribute to international differences among people and businesses, including a country's

physical and demographic factors (e.g., infrastructure, economic situation, language) and cultural aspects (e.g., value, norm) (Ford et al, 2003). Cultural aspects influence the typical ways in which technology applications are used within a country, above and beyond the tangible factors (Zakaria and Stanton, 2003). Given the above background, this research project seeks to investigate the following questions:

- *What are the factors affecting an individual's choice of media in a business environment?*

- *Does consumer media choice vary in different cultures?*

THEORETICAL DEVELOPMENT

Previous research has been performed in several areas of media choice. Daft and Lengel proposed in 1986 that organizations must process information to perform tasks. They identified two information contingencies: 1) uncertainty meaning the absence of information and 2) equivocality meaning ambiguity, confusion and lack of understanding. Communication media is measured by its capacity to process rich information. The richest method is face-to-face followed by telephone, personal documents such as a letter addressed to you personally, and impersonal written documents. Richness differences are based on the medium's capacity for immediate feedback, the number of cues and channels utilized, personalization, and language variety. Lee (1994) proposed that e-mail has the attributes that would allow it to be a rich medium. King (1997) performed a longitudinal study of MBA students and found they preferred to use face-to-face, group meetings and telephone over newer technologies such as email, voice mail, fax or answering machine. She also found that the student's preference was associated with the amount of prior skill and usage the student had with the new technology. Furthermore, she determined that as usage of a new medium increased, usage of the older medium decreased. Table 1 summarizes key studies in media choice and lists the variables that were investigated.

Table 1: Empirical Studies of Media Selection

Variable	Article
Individual differences	Trevino, Lengel, Bodensteiner, Gerloff, Muir (1990a)
Perceived attitudes and behavior of communication partners	Fulk, Schmitz, Ryu (1995)
Geographic dispersion	Trevino, Lengel, and Daft (1987) Steinfield and Fulk (1986)
Media experience	Rice, Kraut, Cool, and Fish (1994) King (1997)
Task	Steinfield (1985), Rice (1992), Donabedian (1998)
Media richness	Schmitz and Fulk (1991), Markus (1994), Rice (1992)
Message equivocality	Daft, Lengel, and Trevino (1987)
Environmental task complexity	Culnan (1983)
Ease of use	Culnan (1984) Adams, Nelson, and Todd (1992)

Based on prior literature, we selected six major factors which are frequently cited in media choice research and proposed the following research model:
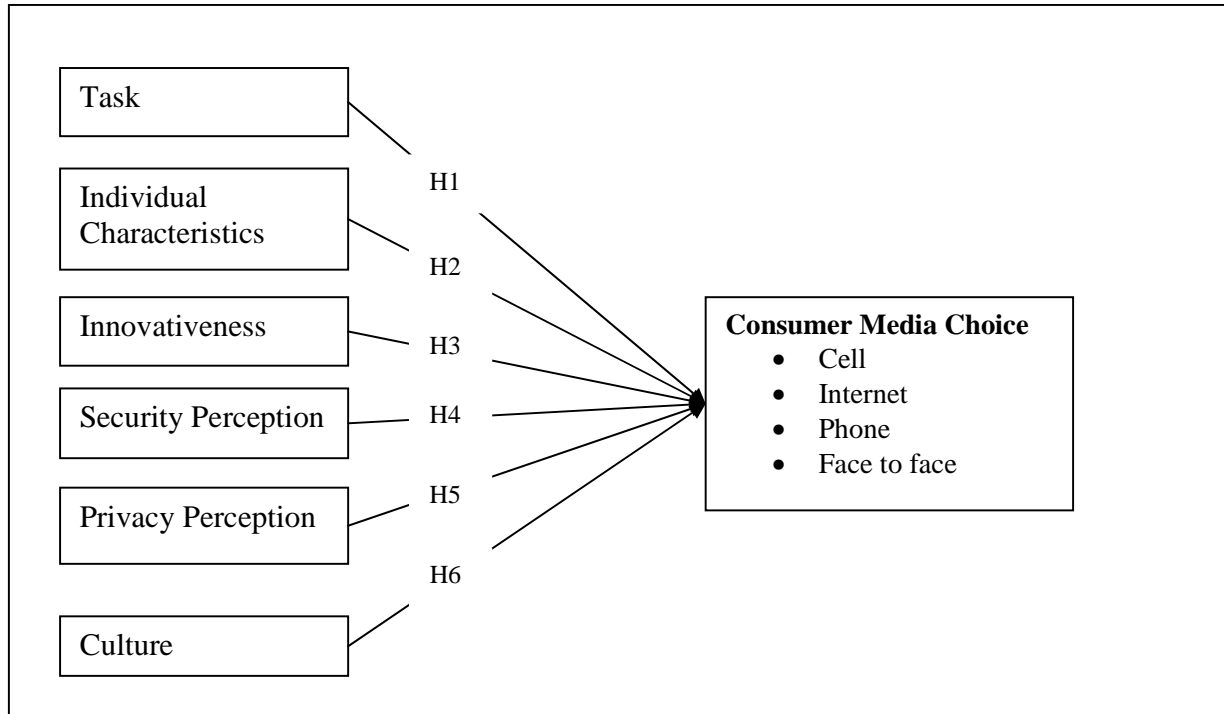

Figure 1:Proposed Research Model

Task Types

In previous research, Daft and Lengel (1986), has treated task type as a dichotomous variable, in which task was characterized based on two variables, uncertainty and equivocality. These two characteristics have been cited by most previous studies on media choice. However, almost all previous studies have focused on the organizational information processing tasks. There are very few studies focused on an individual users' media choice when they are conducting business and related activities. This paper categorizes the task into five categories: Social Communication, Commerce, Entertainment, Information Search, and Banking. This categorization of tasks was influenced by the study of Chau et al. (2002) on online consumer behaviors. This classification has been previously applied in many technology adoption and diffusion studies. Each of the following task types would have different characteristics in terms of uncertainty and equivocality.

▪ Social communication: This task identifies that the individual consumers use different media to meet new people, to join a chat room, to influence a group, and to join a group.

▪ Commerce: This type of task includes activities such as buying/selling goods or services, to make money, and to advertise via different media.

- **Entertainment:** Entertainment is composed of a range of activities including listening to music; watching a movie; getting ring tones and logos; playing games and chatting via different business methods.

- **Information Search:** This category includes people adopting different media to look for information related to educational, employment, product, life and work needs.

- **Banking:** The banking category includes such tasks as making payments and getting financial services that could be conducted through different types of media.

The following hypothesis is offered.

Hypothesis 1: Task is associated with consumer media choice

Individual characteristics

Proliferating media choices and specialized target markets have led to an increased focus on linking media and target market characteristics (Cannon, 1993). The knowledge of the relative concentration of target markets in each medium as well as audience motives and preferences, will undeniably drive media planners to effective media strategies. (Yoon and Kim, 2001). The theoretical relationships between individual characteristics and intention to use certain types of technology has been discussed in many social, psychological, management and MIS studies. Previous IS research suggests that individual differences affect the type and extent of technology use (e.g., Bhappu et al, 1997; Benbasat et al, 1993). These differences are likely to extend beyond interacting with computers to using media in general (Chidambaram, 2001). The customer's characteristics that are investigated in this study include: age, gender, and educational background.

Hypothesis 2: Individual characteristic is associated with consumer media choice

Innovativeness

Consumer innovativeness has been used to study adoption behavior of new products and services (Wood and Swait, 2002). Innovativeness is often identified as a personality construct (Hirschman, 1980; Venkatraman and Price, 1990; Wood and Swait, 2002) and has been employed to predict consumer innovative tendencies to adopt a wide variety of technological innovations. The Citrin et al. (2000) study finds that innovativeness predicts consumer adoption of Internet shopping. Furthermore, recent studies on consumer adoption of wireless application protocol (WAP) indicate that personal innovativeness can predict adoption of M-commerce (Hung et al., 2003). Therefore, we propose:

Hypothesis 3: Innovativeness is associated with consumer media choice

Security

Security has an important bearing on intention to adopt a particular information technology. Security refers to "the policies, procedures, and technical measures used to prevent unauthorized access, alteration, theft, or physical damage" (Laudon and Laudon, 2003). Salisbury et al (2001) define perceived web security as the extent to which one believes that the World Wide Web is secure for transmitting sensitive information. With regards to security concerns of online consumers, consumer perceptions of unsatisfactory security on the Internet continue to exist even when vendors undertake security enforcement mechanisms (Miyazaki and Fernandez, 2001; Zellweger, 1997). Udo (2001) indicates that security concern is one of the main reasons users do not purchase over the Web. In the mobile context,

failing to provide a secure system will significantly dampen consumer adoption rates (Ghosh and Swaminatha, 2001). Therefore, we believe security perceptions play important role in consumers' decision to use certain type of media when they conduct business activities.

Hypothesis 4: Security perception is associated with consumer media choice

Privacy

Warren and Brandeis (1890) defined privacy as "the right of an individual to be let alone", which is the definition that many authors still recognize (Stahl, 2004). Dutta and Macrohan (2002) distinguished the concept of privacy and security. They indicate that "privacy" deals with the degree of control and that entity, whether a person or organization, has over information about itself, while the "security" deals with vulnerability to unauthorized access to content. The privacy of consumer information that is collected for commercial purposes is seen as a distinct consumer right from both legal and ethical perspectives. In addition, the secure storage and transmission of consumer information is seen as an integral step in maintaining privacy (Miyazaki and Fernandez, 2001). Websites require personal information from users for purposes such as membership, newsletter subscription, feedback forms, order forms, etc. Consumers have worried for years about how personal data is used by government and more recently, by business (Udo, 2001). Besides, the growing body of consumer-oriented internet research that is focusing on privacy and security related issues (Milne, 2002) suggests that these issues may play s significant role in developing of online retailing (Miyazaki and Fernandez, 2001).

Hypothesis 5: Privacy perception is associated with consumer media choice

Culture

There have been numerous efforts to identify human cultures and cultural differences in many fields, ranging from anthropology to cross-cultural psychology (Hofstede 1980). Hofstede defines culture as "the collective programming of the mind which distinguishes the members of one group from people from another." Culture can be conceptualized as a set of significant variables that informs the responses of individuals in that culture to new ideas, practices, and technologies, including mobile data services (Choi et al, 2005). In cultural research, culture is always viewed as a collective phenomenon. People learn patterns of thinking, feeling, and potential acting from living within a defined social environment, normally typified by country. As such, culture represents "mental programming" which partially predetermines a person's behavior. Individual consumer tastes and purchasing patterns are thus partly determined by the collective values of their local community. Negative and positive consumer reactions become more understandable and predictable when a person's cultural context is taken into account (Chau et al, 2002). Comparative studies suggest a relationship between culture and technology use (Straub, 1994; Carlson et al., 1999). Rowe and Stuck (1999) applied Hostede's five cultural dimensions to their studies on medium choice, in which they confirmed that media choice is associated with different cultural values.

Hypothesis 6: Culture is associated with consumer media choice

RESEARCH METHOD

This study is aimed at identifying the key determinants of a customer's choice of different commerce media in two different cultural contexts: China and United States. The survey method was utilized for this

research study. Based on appropriate tasks representing appropriate levels of task characteristics, we created 10 task scenarios that cued respondents with five commerce related tasks.

Measures

The items used to measure consumers' media choice under certain task scenarios were simple statements for which the participants were asked to indicate their likelihood to use a certain medium on a seven-point Likert scale, (checking 1 for strong dislike, 7 for strong like and a higher number indicating stronger liking). Others measures were generated from literature review on media choice, technology acceptance, and innovation adoption. There were also some measures taken from an MIS survey instrument on the AIS would website.

Pretest

The survey instrument was tested on several experienced mobile/electronic commerce users who were college students in the city where the questionnaires were to be distributed later. The aim of this pilot survey was to test the feasibility of the instrument and gain qualitative feedback from the respondents. Based on this feedback, changes were made to improve the layout of the survey form and the phrasing of some survey questions.

Pilot study

A pilot study was conducted at one big university in the United States. Sixteen respondents (students and faculty) were asked to complete a questionnaire. At the same time, the questionnaire was distributed to 14 international students outside the USA. The respondents gave verbal and written feedback upon completion of the survey. They were asked to make notes on the surveys of items that were unclear. Minor changes were made to the questionnaire from this feedback.

Data Collection

The revised questionnaires were distributed in a major southern university in the US. A total of 89 respondents filled the survey in the US sample. The English version questionnaire was subsequently translated into Chinese-Mainland version for data collection. The Chinese version questionnaire was distributed through an email list by one of the investigators to people in several large cities in China. One hundred and nine responses were collected from the Chinese sample. After removing bad data, finally we ended up with 89 responses from the US and 106 from China.

DATA ANALYSIS AND DISCUSSION

Reliability

Measure reliability was assessed using internal consistency scores, calculated by the composite reliability scores (Werts et al. 1974). Internal consistencies of all variables are considered acceptable since they exceed .70. Reliability tests show that all constructs were reasonably reliable except for security concerns. The detailed results are displayed in Table 2.

Table2: Reliability

VARIABLE	RELIABILITY (α)
Innovativeness	0.7726
Privacy perceptions	0.8173
Security concerns	0.5326
Cultural Dimension	0.7078
Media Choice	

Likelihood to use cell phone
    Likelihood to use land
    telephone
    Likelihood to use high speed
    Internet
    Likelihood to use face-to-face
	0.7945
	0.8706
	0.7831
	0.8250

Total	0.8453

Confirmatory Factor Analysis

Construct validity focuses on the extent to which data exhibit evidence of convergent validity, discriminate validity, and method effects; it is often examined using the general confirmatory factor analysis model (Bryne, 1998). For confirmatory analysis, we used LISREL 8. We did not employ individual characteristic and culture factor in the factor analysis because there are several categorical variables under these two factors. The analysis indicated privacy perception, security concern and innovativeness factors all had reasonable fit.

Hypothesis Tests

The MANOVA test shows that there are significant differences of likelihood to use different media among various tasks: social events, information search, shopping, entertainment, and banking. The significance level is 0.000 in this test. Therefore, the hypothesis 1 is supported.

We found there are differences among people's media choice in two gender groups. Comparing to female consumers, male consumers are more likely to use internet and face-to-face method to perform tasks. The results also show that people less than 25 are more likely to use cell phone, internet, and face-to-face to perform tasks compared to people older than 25 years. The tests for different income groups showed that people who have lower income (less than $1000 per month) like to use cell phone and land line phone to perform tasks while people who have higher income (more than $1000 per month) are more likely to use the internet and face-to-face method for business activities. These results validate hypothesis 2.

We found that innovativeness only has an impact on people's choice to use internet to perform various commerce related tasks. The p-value for the regression from innovativeness on likelihood of people's choice to use internet is 0.004. This supports hypothesis 3.

The results show that security issues have significant impacts on the likelihood of people's choice to use cell phone and face-to-face method to perform tasks. We found that there is negative impact on people's likelihood to use cell phone while there is positive impact people's likelihood to use face-to-face. The significant values for these two regressions are 0.076 and 0.084. Given the higher p values, hypothesis 4 is only partially supported.

Regressions results show that privacy issues have significant impacts on the likelihood of people's choice to use internet and face-to-face method to perform tasks. There are both positive impacts on likelihood to use internet and face-to-face methods to perform commerce tasks. The significant values for these two regressions are 0.044 on the choice of internet and 0.000 on the choice for face-to-face. Accordingly, hypothesis 5 is supported.

An independent samples test with US and Chinese samples shows that there are significance difference between an individual's media choice when performing a specific task. The US people are more likely to use cell phone for social activities, but Chinese people like to use landline phone and the internet. The Chinese are more likely to use the internet to search information. There is no difference among people's media choice for entertainment between the two countries. The Chinese people are more likely to use cell phone, landline phone and face-to-face media for banking tasks while the US consumers prefer internet banking. Some of these differences can be explained by Hofstede's cultural dimensions, but not all. Compared to the US, China has higher levels of uncertainty avoidance and power distance. China also rates higher on collectivism and lower on individualism. Phones (land line or mobile) and face-to-face communication allow for greater social interaction than the Internet, thus preferred in china. Our findings thus provide significant support for hypothesis 6.

CONCLUSION, LIMITATION, AND FUTURE RESEARCH

The contribution of this study for practitioners is to help business vendors identify and target groups of consumers who have a strong preference for specific media, especially the emerging technologies. The idea of whether certain media should be provided to all customers for all products and services is too expensive and formidable for developing effective marketing strategies. Corporations continue to evaluate how individual products and services should be offered for specific consumer groups based on their individual characteristics (Frolick and Chen, 2004). Our study provides evidence that various factors need to be considered to focus on target consumers in two different cultures. It would help companies in preparing strategies for different consumers according to their choice to perform various tasks with certain media. Furthermore, the results are applicable to companies considering overseas expansion. A better understanding of how cultural distance may affect consumer evaluation of different media can uncover ways to localize a global interface. Knowing customer preferences would help fine tune aspects of customer relationship management and market segmentation strategies.

Our study yielded meaningful results; however, some limitations need to be noted. The validity of our results depends on the attributes of the surveyed subjects. We used student data to inform our analysis. The student samples are not completely representative of all users. However, students are more open to the kind of innovations found in mobile phone services and are the first to adopt such innovations. In addition, the generalizability and detailed analysis of the results may be limited by the sample size. Thus future works may focus on larger sample sizes from representative consumer bases.

There are several future research directions to pursue. For example, a more detailed and micro level examination of the factors affecting customer media choice would reveal more practical information for marketing professional and researchers. An insightful examination of the reasons for low preference for certain technology-based media may spur research and development in improving these media. Other interesting work would be welcome in the cultural context. While we provided a starting point for cultural differences, a carefully planned research agenda could be initiated to examine various cultural nuances in a host of different countries.

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