

Factors Affecting Consumers' Uses and Gratifications of the Internet: A Cross-Cultural Comparison among Taiwan, Hong Kong and China

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Summary

This study has two interrelated objectives. The first is to explore the factors and mechanisms that might influence people's internet using behaviors. The second aim is to uncover the relationships between uses and gratifications of internet and social economic factors among Taiwan, Hong Kong, and China.

The data analyzed were collected from a cross-sectional random sample survey through ISS (Internet Survey System) taken in May 2000. Factor analysis, Cluster analysis, and logistic regression were utilized in order to explore which people, and under what motivations and situations, adopt what kind of internet mechanism, and with what impacts.

In brief, the more matured the infrastructure of internet, the more diversified the internet behaviors. The quality of service, privacy, and convenience are three common factors that determine people's acceptance to e-commerce. In Taiwan, risk factors of transaction and the degree of convenience are highly correlated to the adoption of e-commerce. Social economic status and access to internet in China and the quality of service in Hong Kong appear to influence people's willingness to take transactions through internet.

Key words

e-commerce, Technology Acceptance Model, uses and gratifications, internet security

1. Introduction

In 2003, there are an estimated 79.5 million Internet users in China, 8.83 million in Taiwan and roughly 3.21 million in Hong Kong [1]. Furthermore, e-commerce, despite much skepticism and obstacles facing the practice, has taken off. Though difficult to account accurately, it is projected that global Internet sales will exceed \$12.8 trillion in 2006 [2].

Although it is clear that e-commerce is becoming more and more popular, there is still little consensus regarding

people's cognitive mechanism for using it. In order to get a better understanding of some possible reasons and concerns, we shall examine past literature on why people

use this form of mass media and the gratifications derived from it.

The Internet is different from traditional media in three aspects: interactivity, demassification and asynchronicity [3]. While traditional mediated communication modalities (e.g., television) have been widely examined under the use and gratification paradigm, computer-mediated modalities, such as online-service use on the Internet, demand renewed theoretical and empirical attention [4].

Perse and Courtright, in a 1988 survey, concluded that computers ranked lowest among twelve types of mediated and interpersonal communication for satisfying communication needs, such as relaxation, entertainment, self-awareness and excitement [5]. The picture changed a few years later when Perse and Dunn suggested that people using computers for electronic communication were doing so for the following reasons: learning, entertainment, social interaction, escapism, to pass time and simply out of habit [6]. The use of computers hooked to networks or information services for reasons of passing time or out of habit suggests a ritualistic use, instead of a use aimed at the gratification provided by a specific content[7].

Thus, Eighmey developed, adopting the uses and gratifications paradigm, six dimensions of motive: marketing perceptions, entertainment value, information value, ease of use, credibility and interactivity [8]. Based on survey data from 202 subjects and analyses from 28 e-commerce Web sites, he concluded that Web users are prompted by (1) information placed in an enjoyable context; (2) organizational ideas that make sense in terms of the strategic purpose of the Web site; and (3) efficiently executed designs.

Korgaonkar and Wolin, applying the uses and gratification paradigm, explored, among other things, Web users' motives and concerns in shopping-oriented usage [9]. It found that the significant discriminating variables were:

transaction-based security and privacy concerns, information motivation, interactive control, conversation motivation, economic motivation, gender and age. Those who engaged in e-commerce were more likely to accept the privacy and security pitfalls associated with making purchases on the Web, enjoy its information-rich environment and relish its interactive features and the socialization value.

Wu and Farn, combining the uses and gratification paradigm and the Technology Acceptance Model (TAM) from the area of MIS (Management Information System), suggested that the construct of “perceived usefulness” can be modified to fit the case of Web usage intention, and include the following dimensions: entertainment, interactivity, primary information and peripheral information [10].

This Technology Acceptance Model, proposed by Davis, was developed to explain why people adopt technology. Davis stated the goal of the model is to “provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behavior across a broad range of end-user computing technologies and user populations” [11].

Furthermore, the Technology Acceptance Model was derived from the Theory of Reasoned Action (TRA), and is widely regarded as a relatively robust theoretical model for explaining information technology use [12].

In this model, perceived usefulness and perceived ease of use are considered the most important variables in explaining and predicting the use of information technology. However, perceived usefulness and perceived ease of use do not influence information technology directly. Instead, attitude toward using the information technology in question is first affected by the two antecedent variables, then, as TRA posits, affects using intention finally causing the actual use of technology. The model can be further conceptualized as below:

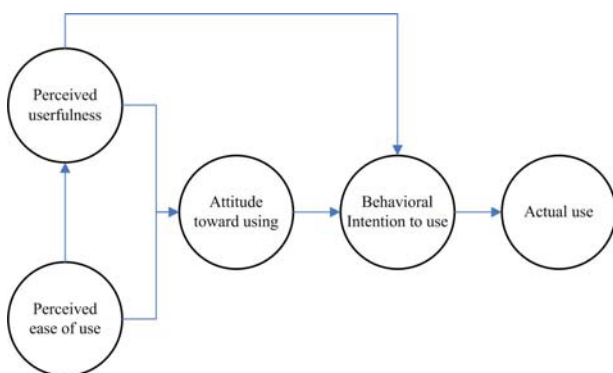


Fig.1 Technology Acceptance Model

Davis, in his earlier work, defined perceived usefulness as the user’s subjective probability that using a specific technology will increase his or her job performance and perceived ease of use as a degree to which the user expects the target technology to be effortless. The higher the perception of usefulness and ease of use, the higher the probability of actually using the technology [13].

Besides the pure Technology Acceptance Model that applies to many different information systems, many deviations of the model have been developed and tested too. Incorporating trust and experience into the Technology Acceptance Model, the study pointed out that there is a lack of empirical evidence examining the relationship between perceived usefulness and usage intention with experienced and inexperienced users [13]; however, the customer's trust, perceived usefulness and perceived ease of use all change with experience [14]. Davis also pointed out that as repeated use of a system increases, users become more familiar with the system, thus resulting in an increase of perceived ease of use [11]. Besides perceived ease of use, perceived usefulness will also increase with familiarity with the system. This is because as experience increases, the potential benefits of the system will become clearer to the users and further lead to a higher perceived usefulness of the system [11].

Featherman and Pavlou have included measures of negative utility (perceived usage risk) into TAM, which is taken as positive utility oriented by many researchers. By doing so, they believe more theoretical insights into the adoption of information system may be possible [15].

TAM has been applied to many different information systems and settings and has been proven to be a widely accepted model. However, Straub et al. found that TAM might not hold across cultures. They emphasize the importance of applying TAM to different cultures because first, the degree of business and system globalization increases so rapidly; second, there are few studies that specifically examine possible culture effects that might exist in the adoption of information technology; and third, there is reason to believe that, based on past research, culture and information technology adoption are interconnected [12].

Straub et al. tested TAM in the United States, Switzerland and Japan and found that TAM only holds true for the U.S. and Switzerland, but not in Japan, indicating that TAM may only hold for some cultures, and not in others [12].

One criticism of the uses and gratification paradigm is that it fails to recognize the social structure and the role of media in that structure [7]. One answer to that criticism has come from Rubin and Windahl [16], who proposed a synthesis of the uses and gratifications paradigm and dependency theory [17]. The “use and dependency model”

places individuals within societal systems to better understand the interaction effects and mechanisms between individuals and environments. In addition, Lynch and Beck's study [18], analyzing a sample of advanced Internet users from twenty countries, showed major differences in beliefs, attitudes, perceptions and Internet-based consumer behaviors depending on users' experiences and their native country or region, after controlling for social, cultural and macro-economic variables.

Although people living in China, Taiwan and Hong Kong share a similar Sino-Chinese culture, differences in social system, lifestyle and socio-economic status may create quite different needs and behaviors, especially in the rapidly changing area of e-commerce. Lynch and Beck suggest that examining both a country's culture and history as a macro-level analysis and consumers' perceptions as a micro-level analysis is key in identifying international patterns of Internet use [19]. Given that counting for the motives, uses and people's cognitive mechanisms of e-commerce across cultures are relatively new and unstudied, this research aims to explore a new topic rather than conduct any formal hypotheses testing. More specifically, this paper attempts to explore potential similarities and differences among e-commerce behaviors in China, Taiwan and Hong Kong. Therefore, at this stage, a series of research questions, instead of any kind of formal hypothesis, shall guide our investigations.

This paper attempts to address how differences in beliefs, attitudes, perceptions and Internet-based consumer behaviors may vary across regions. Summarized from previous related theories, along with the use of inductive logic, my research questions involve the impacts of three sets of forces potentially influencing e-commerce behaviors: demographics, motive and perceived deficiencies. In sum, this research aims to explore how gender, age, education and income might influence and individuals' likelihood of adopting e-commerce within different cultures. What are the roles of motives and perceptions of e-commerce deficiencies in Internet behavior? How important are the interaction effects between culture and motives and culture and perceptions to the consequent likelihood of one's e-commerce consumption behaviors? The research findings are expected to contribute to a better understanding of how Web content and e-commerce services, although all operating within a similar culture, should be adapted to meet micro and macro market differences.

2. Methodology

2.1 The Sample

Using the 7.4 million e-mail addresses covering Taiwan,

China and Hong Kong provided by the Media Communication Management Center in National Taiwan University as the sampling frame, and adopting the ISS (Internet Survey System) to proceed random sampling - 20,000 from Taiwan, 20,000 from China and 15,000 from Hong Kong - questionnaires were sent to these subjects through the Internet from May 20, 2000 to May 30, 2000. The distribution of the samples contacted is shown in Table1.

Table 1: Sample Distributions

Area	Sample contacted	Non-artificial Unreachable	Valid Cases	Sampling Error	Response Rate
Taiwan	20000	5423	5031	±1.38%	34.5%
China	20000	8719	1836	±2.29%	16.3%
Hong Kong	15000	4305	3171	±1.75%	29.6%

2.2 The Measures

The overall evaluation of each focal concept was obtained by aggregating a number of items related to the degree and extent to which specific features have been achieved:

Table 2: The Measures of Focal Concepts

Concepts	Dimensions	Indicators
Motives	Privacy	Avoid harassment from salespeople
		More privacy in shopping
		Door-to-door delivery
	Diversity	Diverse commodities
		Sole commodities from the Internet
		Related information is complete
	Convenience	Simple procedures
		Convenient payment and transfer
		Save transaction time
Drawbacks	Unfamiliarity	Less comfortable than with traditional transactions
		Unable to show the real things
	Insecurity	Insufficient transaction security
		Unable to evaluate commodity quality
	Insufficiency	Too few commodities
		Too little information about commodities
	Inconvenience	Transaction process is too complicated
		Delivery is too slow

3. Results

This section summarizes the results of the aforementioned research and highlights some of the major implications derived from its findings. The cross tabulation with Pearson chi-square is utilized to test the hypothesis that gender, age, educational background and willingness to utilize the Internet are independent. A binary logistic regression is utilized in order to explore who is engaging in e-commerce and under what situations they do so.

3.1 Features of Internet population

Currently, in Taiwan, China and Hong Kong, males still make up the majority of Internet users - 61.7% (Taiwan), 85.3% (China) and 76.6% (Hong Kong), to be precise. Utilizing these numbers, we find that Taiwan has the most even male-female Internet usage ratio of 6:4 whereas China has the largest imbalance of the three. The Pearson chi-square value is less than .05, which leads us to reject the hypothesis that gender and Internet usage are independent.

Table 2: Gender Distributions

Gender/Area	Taiwan	China	Hong Kong
Male	61.70%	85.30%	76.60%
Female	38.30%	14.70%	23.20%

Figures shown in sells are column percentage; Pearson Chi-Square=.000

Table 3 is a cross tabulation of age and Internet usage. People under 40 years old are the main users of the Internet in Taiwan, China and Hong Kong, making up 85.5% of the e-population in Hong Kong, 90.7% in China and 94.3% in Taiwan. Within this age group, those between the ages of 20 and 30 years old make up the majority of users (Taiwan: 57.2%; China: 63.2%; Hong Kong: 43.0%). Although the age level of Internet users tends to be younger, it is worth noting that 0.5% and 0.2% of Internet users are over 70 years old in Taiwan and Hong Kong respectively. These numbers reveal that use of Internet technology has gradually permeated into the older population. However, these Internet users have not yet been discovered in significant numbers in China.

Table 3: Age Distribution

Age/Area	Taiwan	China	Kong Hong
20	17.00%	8.40%	11.50%
20~30	57.20%	63.20%	43.00%
30~40	20.00%	19.10%	31.30%
40~50	3.90%	4.90%	11.50%
50~60	1.00%	3.90%	1.80%

60~70	0.40%	0.50%	0.70%
Above70	0.50%	0.00%	0.20%
Mean	27.13	28.49	30.14
St. Deviation	8.16	8.84	9.45

Figures shown in cells are column percentage; Pearson Chi-Square=.000

As we further observe the average age of Internet users in Taiwan, China and Hong Kong, we find that Internet users in Taiwan tend to be younger (27.13 years old); three years younger than Hong Kong, which has the highest average age among the three. By applying ANOVA, the result suggests that not only the age of the Internet users in Taiwan is younger, but also the age allocation is more centered, i.e. the standard deviation is the smallest. Thus, by looking at the chi-square, the null hypothesis of the independence of age and Internet adoption is rejected.

According to the numbers presented in Table 4, people with college degrees or higher make up the majority of Internet users in China, Taiwan and Hong Kong - 83.9% (China), 69.5% (Taiwan) and 60.7% (Hong Kong) - among which the largest group being composed of those who have completed their undergraduate studies (China: 71.6%; Taiwan: 58.8%; Hong Kong: 52.3%).

This is due to most colleges providing free access to the Internet; college students are thus the majority of Internet users. The Pearson chi-square value is less than .05, which leads us to also reject the hypothesis that educational level and Internet adoption are independent.

Table 4: Education Distribution

Education Level			
	Taiwan	China	Hong Kong
Junior high school and below	4.50%	6.90%	8.80%
Senior high school	25.90%	9.30%	30.20%
University or college	58.50%	71.60%	52.30%
Graduated school	11.00%	12.30%	8.40%

Figures shown in cells are column percentage; Pearson Chi-Square=.000

Annual income figures for all pairs of group comparisons, using the Bonferroni multiple comparison procedure, are shown in Table 5. Hong Kong Internet users have the highest income while the Taiwanese are second and the Chinese are third. They are significantly different from one another at .05 level.

The demographic findings mentioned above support the theory that the prevalent global Internet consumer population is relatively young, highly educated, in the mid to upper social economic status, male and in professions

associated with technology [19].

Table 5: Analysis of Variance (Income by region)

Income				
Residence(I)	Residence(J)	Mean Difference (I-J)	S.E	Sig
Taiwan	China	6433.13	580.3	.000
Hong Kong	China	32746.7	624.1	.000
Hong Kong	Taiwan	2631305	482.6	.000

3.2 Motives of conducting e-commerce

As far as motive is concerned, saving transaction time is the main reason users in Taiwan and Hong Kong (Taiwan: 27.5%; Hong Kong: 33.6%) log on, with the main aspect motivating users in China (34.3%) being door-to-door service. According to the analysis comparing motives, such differences may be the result of the compact demographic make up of Hong Kong and Taiwan and their convenient transportation and logistics. However, due to their faster living pace, saving precious time while making transactions becomes the main concern of these two regions. China, on the other hand, is quite vast and the costs of communication and transportation are high. The convenience of having products and services delivered straight to one's door, therefore becomes a key factor in people's decision to engage in e-commerce.

On the other hand, it is obvious that users do not see customer support as a motivating factor for engaging in e-commerce. Among Taiwan, China and Hong Kong, only 1~3% of e-transactions are motivated by strong customer support. As far as online privacy (in shopping) is concerned, although this item was chosen by over 10% of users in Taiwan and China, it did not receive the same level of attention from users in Hong Kong, whose ratio is only half of that of Taiwan.

Table 6: Motives of e-transactions

Why do you choose e-transaction? (Multiple choices)	Multiple Choices		
	Taiwan	China	Hong Kong
Avoid harassment from salespeople	15.50%	17.60%	20.30%
More privacy in shopping	12.50%	18.60%	6.60%
Door-to-door delivery	26.70%	34.30%	25.40%
Diverse commodities	22.60%	25.00%	31.10%
Sole commodities from the Internet	11.00%	8.30%	14.80%
Related information is complete	10.50%	13.70%	13.50%
Simple procedures	24.40%	22.10%	33.30%
Convenient payment and transfer	21.50%	21.60%	30.00%

Save transaction time	27.5%	29.40%	33.60%
Others	1.80%	5.40%	3.10%

Figures shown in cells are column percentage

3.3 Drawbacks of e-transaction

As far as the drawbacks of e-commerce are concerned, users in Taiwan, China and Hong Kong share some common deterrents, i.e. insufficient transaction security, and inability to evaluate the quality of a site's commodities (61.8% & 56.7% in Taiwan, 52.5% & 66.7% in China, 71.5% & 63.8% in Hong Kong).

When compared with the results in Table 6, users in Hong Kong are uncomfortable with the security, or lack thereof, provided on the Internet. Many users in Hong Kong believe that transactions conducted over the Internet are not secure enough, and that business conducted at traditional shops feels more substantial. To conclude, it can be found that Internet users in Hong Kong do not trust e-commerce.

Table 7: Drawbacks of e-transactions

What are the drawbacks of e-transaction?(Multiple Choices)	Multiple Choices		
	Taiwan	China	Hong Kong
Less comfortable than with traditional transactions	8.30%	6.40%	15.00%
Unable to show the real things	27.60%	25.50%	42.20%
Insufficient transaction security	61.80%	52.50%	71.50%
Unable to evaluate commodity quality	56.70%	66.70%	63.80%
Too few commodities	17.10%	37.70%	21.40%
Too little information about commodities	28.70%	36.30%	24.15%
Transaction process is too complicated	10.10%	26.00%	8.20%
Delivery is too slow	16.50%	39.20%	26.30%
No drawbacks	0.70%	0.00%	1.10%
Others	1.20%	0.50%	1.10%

Figures shown in cells are column percentage

3.4 The future of e-commerce

Regarding the future of e-commerce, Taiwan, China and Hong Kong share a common willingness to utilize Internet shopping, e-banks and e-trading in the future. However, after further analysis of Table 8, it is worth noting that 12.6% of Taiwanese Internet users are not willing to conduct e-transactions, a number much higher than that

seen in Hong Kong (7.5%) and China (3.9%).

Generally speaking, Internet users in China show a lot of interest in conducting e-transactions – an idea not only supported by the number of users unwilling to try e-transactions in the future, which serves as a dependent variable, but also by the perceived motives and drawbacks of e-transaction, which serves as an independent variable.

Table 8: Willingness to try e-transactions in the future

What kind of e-transactions will you try in the future? (multiple choices)			
	Taiwan	China	Hong Kong
None at all	12.60%	3.90%	7.50%
Internet shopping	62.20%	75.50%	53.60%
E-banking	43.50%	66.70%	67.80%
Online brokerage	41.50%	37.70%	35.80%
Subscription of e-paper or e-magazine	39.80%	28.40%	25.60%
Others	10.35%	0.00%	1.50%

Figures shown in cells are column percentage

3.5 The effects of demographics on adoption

Table 9 reveals information regarding the factors affecting the behaviors of those engaging in e-commerce. The results suggest that gender and income are good predictors of e-commerce adoption. The estimated odds of adopting e-commerce are .726 times lower for females than for males. That is, male users, as opposed to female users, are more willing to adopt e-commerce. Table 9 also shows that, in general, the higher the income, the higher the odds of one's willingness to adopt e-commerce.

Table 9: Logistic Analysis: Predicting log odds and odds of e-transaction adoption

Variables	Coefficient (B)	S.E.	Sig	EXP (B)
Gender (Male=1, Female=2)	-.320	.063	.000	.726
Age	-.002	.035	.957	.998
Taiwan	-.634	.191	.001	.531
Hong Kong	-.924	.217	.000	.397
Education	.032	.039	.411	1.033
Income (in U.S.D)	.000	.000	.008	1.000
Motive of privacy	.019	.075	.795	1.020
Motive of	.614	.092	.000	1.848

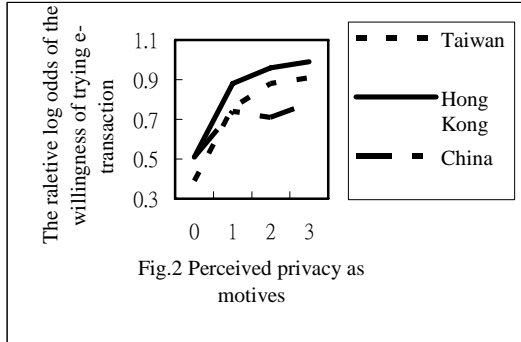
diversity				
Motive of convenience	.657	.076	.000	1.929
Drawback of unfamiliarity	-.482	.101	.000	.618
Drawback of insecurity	.201	.074	.007	1.222
Drawback of insufficiency	.447	.081	.000	1.564
Drawback of inconvenience	.153	.081	.058	1.165
Taiwan x privacy	.642	.098	.000	1.900
Taiwan x diversity	1.338	.127	.000	3.813
Taiwan x convenience	.575	.095	.000	1.777
Taiwan x unfamiliarity	-.194	.091	.033	.824
Taiwan x insecurity	.295	.118	.012	1.343
Taiwan x insufficiency	-.291	.104	.005	.747
Taiwan x inconvenience	-.214	.117	.067	.807
Hong Kong x privacy	1.076	.146	.000	2.932
Hong Kong x diversity	2.494	.180	.000	12.114
Hong Kong x convenience	.851	.110	.000	2.342
Hong Kong x unfamiliarity	-.244	.131	.063	.784
Hong Kong x insecurity	-.046	.110	.673	.955
Hong Kong x insufficiency	-.207	.123	.090	.813
Hong Kong x inconvenience	-.021	.151	.890	.979
Constant	-.482	.189	.011	.618

(Goodness of fit = 5225.654, d.f. = 27, significance = .000, -2 Log likelihood = 8305.954)

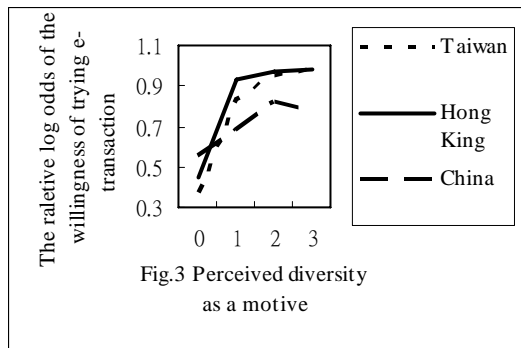
3.6 The effect of motives on adoption across culture

The interaction between all of the perceived motives of e-commerce and one's place of residence, on the other hand, is shown as a significant predictor. This significant interaction provides more interesting insights regarding the dynamic relationship among culture, motives and decisions. Figure 2 shows that the odds of adopting e-commerce are always greater for the people of Hong Kong than for Taiwanese, regardless of their perceptions about the

importance of transaction privacy. It is also obvious that, for both the people of Hong Kong and Taiwan, the odds of adopting e-commerce are contingent upon their concerns about transaction privacy; the more one is concerned about transaction privacy, the higher the probability is they will try e-commerce. In China, the tendency pretty much replicates this pattern. However, among those who don't have any concerns about privacy of transactions, users in Hong Kong and China are more willing to engage in e-commerce than those in Taiwan.

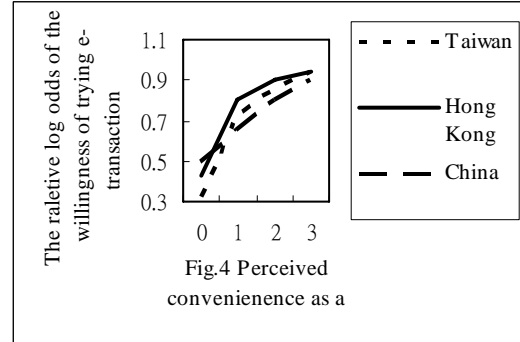


Not surprisingly, the results show a very strong positive connection between the motives of “diversity” in determining whether or not one will engage in e-commerce. In particular, people who do care about the functional diversity of e-commerce, compared to those who perceive diversity of commodities on the Internet as irrelevant, show much higher odds of adopting e-commerce. Figure 3 shows that among people who regard “diversity” as an important function of e-commerce, Hong Kong has the highest chance of adopting e-commerce, with Taiwan ranking second and China coming in last. Nevertheless, the Chinese show an opposite pattern for those people who do not care about the importance of diversity in e-commerce while those in Hong Kong are second and the Taiwanese third. In addition, Taiwanese are very unlikely to try e-commerce if they do not appreciate the value of diversity in Internet shopping.



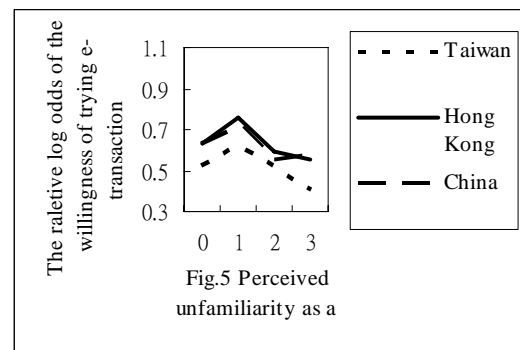
The interaction between perceived convenience as an important motivator, along with one's place of residence, are shown as significant predictors in influencing the odds

of adopting e-commerce. Figure 4 shows that for all three areas, the more people perceive convenience as an advantage for Internet shopping, the higher their odds are of adopting e-commerce. More specifically, Taiwanese and Hong Kong people who pay more attention to shopping convenience are more likely to shop over the Internet than the Chinese who also highly value it. Conversely, among those people who do not care about shopping convenience at all, the Chinese have relatively higher odds of shopping over the Internet than people from Hong Kong and Taiwan.



3.7 The effects of perceived drawbacks on adoption across different cultures

Figure 5 shows an inverse relationship between one's unfamiliarity with e-commerce and their willingness to engage in e-commerce. In short, where “unfamiliarity” rates higher than 1 point, representing those people who are more familiar with traditional commerce, there are lower odds of shopping over the Internet. However, among those who perceive Internet shopping as having more significant shortcomings than traditional transactions, Chinese users have the highest odds of adopting e-commerce while Hong Kong people are second and Taiwanese, who are very unlikely to adopt e-commerce if they perceive it as something unfamiliar, third. Surprisingly, people with minor complaints about the unfamiliarity of Internet shopping (score=1), instead of no complaints (score=0), are more likely to engage in e-commerce.



Regarding the interaction effects of insecurity and one's place of residence on the adoption of e-commerce, Figure 6 suggests that, regardless of one's place of residence, people with complaints about the insecurity of e-commerce (score=1&2), instead of with no complaint (score=0), are more likely to engage in e-commerce. However, the significant level (.673) is much higher than .05, indicating an uncertain statistical inference about the population.

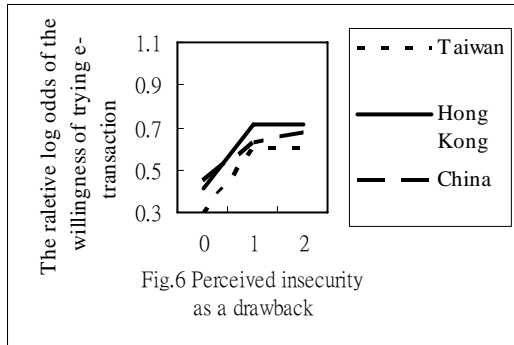
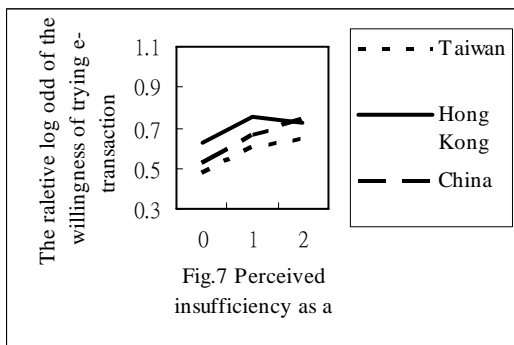
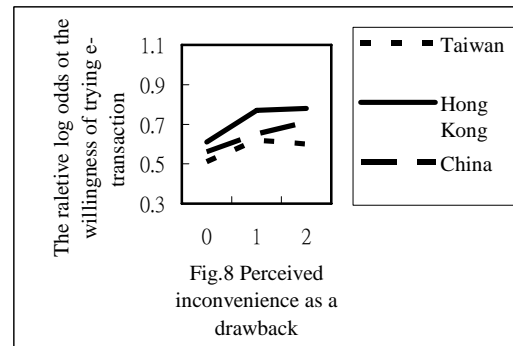


Figure 7 shows the interaction effect of insufficient commodities and one's place of residence on the adoption of e-commerce. More surprisingly, those who have no complaints about these insufficiencies in Internet shopping have the lowest odds of engaging in e-commerce. Similarly, the more complaints a population has regarding these insufficiencies, the greater the odds of adoption for Chinese and Taiwanese. Figure 7 also reveals that among people who regard these insufficiencies as a significant shortcoming of e-commerce, Chinese have the highest odds of adoption. Hong Kong people have the second highest odds while Taiwanese have the lowest.



The results shown in Figure 8 suggest a sophisticated collective consumer psychology. For Chinese, who are more skeptical about the value of convenience, show a very direct relationship in the value they put into convenience and their willingness to adopt e-commerce. Figure 8 also reveals that among people who regard inconvenience as either a significant drawback or merely irrelevant to e-commerce, Hong Kong people have the highest odds of adoption. Chinese have the second highest odds while Taiwanese have the lowest. However, they

were only significant at levels of 0.67 and .890, meeting neither the conventional criterion of a .05 level nor the .10 marginally significant level.



4. Discussions

Users in Hong Kong seem to have a unique attitude towards e-commerce. In fact, Hong Kong can be regarded as the area with the most mature e-commerce market compared to Taiwan and China. On the one hand, the makeup of the Internet users in Hong Kong ranges from students, who by nature represent one of the lower income populations, to white-collar professionals. In addition, the more mature the market is, the more discrepant the consumers' attitude toward the motives of e-commerce and the drawbacks of its services is.

On the other hand, since the average income of Internet users is much higher than the average national income, the prospects of a rise in spending on the Internet can be expected. Although the purchasing power of Hong Kong users is greater than Taiwanese users, the amount of money spent on the Internet in Hong Kong last year failed to match the amount spent in Taiwan. It merits further discussions on the part of companies interested in developing e-commerce in Hong Kong as to why the region's purchasing power does not reflect its actual consumption on the Internet.

Hong Kong is a small island with a large population and a convenient shopping environment. Although these conditions are unfavorable to the development of Internet retail business, e-commerce still holds some important advantages, such as the ability to save time while conducting transactions and the relative ease in which transactions can be conducted. These advantages, which go along with the fast-paced lifestyle of Hong Kong, still make e-commerce competitive compared to traditional retail business. However, due to the fact that people in Hong Kong use credit cards incredibly often, twice as often, in fact, as people in Taiwan, it is crucial that Internet-based companies provide a secure environment in which the people of Hong Kong will feel safe in

conducting e-commerce.

No matter where people live, whether it is Taiwan, Hong Kong or China, people who respect their privacy when they shop would like to be able to purchase commodities through e-commerce.

Access to diverse and otherwise rare commodities has become the main reason for people living in Taiwan, Hong Kong and China to try e-commerce. Worth noting, the Chinese, in particular, are very much interested in e-commerce regardless of whether or not the commodities provided are diverse. The convenience of the Internet is also a major factor motivating users in Taiwan, Hong Kong and China to shop on the Internet. For those who do not care at all about the convenience of the Internet, the probability of engaging in e-commerce is relatively low.

In comparison, the purchasing behavior conducted over the Internet in China is void of any recognizable pattern compared to that of Taiwan, which shows relatively more rationality. Without any significant motives, the Taiwanese will rarely engage in e-commerce. The Chinese, however, are more willing to do so.

To conclude, convenience, privacy and diversity are the main factors motivating people to shop on the Internet. However, these motives have different effects on e-commerce within different regions, cultures and countries.

When trying any new technology, the positive aspects that surround it are not the sole factor in determining its popularity. The negative perceptions and preconceptions toward such advancements can be a decisive factor as well. Through the Factor Analysis, we extracted four major deterrents of shopping on the Internet. They are a potential user's unfamiliarity with it, the real or perceived insecurity involved in engaging in e-commerce, insufficient commodities offered in its use and inconvenience involved in acquiring goods from it. The effects of these factors on e-commerce have varying influences on different cultures.

Regarding the idea of adapting to a new technology despite its known drawbacks, the Chinese are the most willing to try, with people in Hong Kong ranking second. Taiwanese people seem to be unwilling to accept a new way of business if information regarding it is incomplete or imperfect. It can be noted that when Taiwanese perceive that there are certain drawbacks to engaging in e-commerce, there is a much lower chance of them actually doing so, compared to the populations of Hong Kong and China.

For those more accustomed to traditional ways of doing business, unfamiliarity with e-commerce is the major factor in rejecting its practice. As far as those who cannot

illustrate any drawbacks of shopping on the Internet, they are probably indifferent and distant consumers who are unwilling to change their purchasing habits or simply unwilling to accept new things. Generally speaking, the more often consumers use the same product, the more often they express dissatisfaction with it. However, such complaints will not necessarily affect their willingness to use the product again.

As far as the Chinese user population is concerned, many who find conducting transactions over the Internet to be somewhat inconvenient are still willing to engage in e-commerce. However, it is still difficult to clarify which of these two factors is the cause and which is the effect, because the logistic regression function cannot fully clarify the relationship between the two. That is, people shopping on the Internet tend to cavil more about the drawbacks of the e-transaction more, making their frequent Internet usage the cause and the perceived inconvenience the effect.

5. Limitations and Suggestions

Due to the fact that Internet users usually change their email address quite frequently, an accurate sampling frame is difficult to obtain. Therefore, while analyzing the samples of different countries may bolster this research's internal validity, our sample procedure may be less representative of a particular region's Internet population. In particular, the results are potentially less representative in regions where the Internet population grows rapidly.

Ideally, three or more indicators of a construct would be better than one or two in anchoring the variable in its indicators [20]. The three drawback variables, however, having only two indicators, may be unable to meet the identification criteria. Also, simply using a binary choice to measure each motive and drawback variable might compromise the validity and reliability of this area of the data. The relative low squares multiple correlations suggest to us that, from the empirical perspective, the observed variables might not be reliable indicators of the constructs of "motive" and "drawback".

With the two-way interaction effects between "residence" and "motive" and "residence" and "drawback", it is difficult to know the effects of the gap between perceived expectations and concerns on the adoption; a three-way interaction among "residence", "motive" and "drawback" could possibly provide more subtle information about the decision making psychology.

Cognitive components of attitude are influenced by both social and environmental factors; a number of other country-specific variables such as Internet infrastructure, cost of online access and the ease and security of payment and fulfillment systems may be important and should be

included.

One of the challenges created by global e-commerce is how to better understand motives and gratifications among groups of potential customers on the Internet. Misunderstanding the cultural or regional differences of consumer preferences can cause a successful strategy in one country to fail elsewhere. Evidence presented in this paper suggests that, due to the vast array of differences between cultures and regions, one cannot always assume that because a business model is promoted to someone in a culture similar to that in which it was originally presented, that the customer will accept the model the way those promoting it intended them to. Meanwhile, if those promoting e-commerce want to reach consumers across the globe, they have to consider the differences at the micro level of consumer psychology as well as the macro level of social infrastructures.

Notes: Samples that could not be interviewed due to technical factors include BBS e-mail addresses (html format not supported), invalid e-mail addresses, and no response from the mail servers; samples that could not be interviewed due to human factors include subjects who refused to fill out the questionnaires.

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