

An Empirical Study on the Smartphone Consumer Choice Factors - Comparison of Korea and Chinese Consumers

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Abstract

Recently, Korea and China smart phone users are going to increase dramatically. According to the Korea Telecommunications Industry of smart phone subscribers are 10 million people in March 2011, followed by break through the 30 million people in August 2012, 10 months. Especially, Consumption patterns of Chinese and Korean progressing rapidly using a smart phone but also is being offered a good opportunity in the enterprise. In this study, the foundation focus on the choice factors by comparing attributes of the difference the consumer smart phone recognition between South Korea and China. Finally, analyze the global management strategies of smart phone manufacturers, as well as further smart phone user environments. The results of this study can be summarized as follows. First, according to the Korea Consumer choice and smart phone of Chinese consumers are showing a difference. In Korea, the consumer design, size, ease of display, epidemic, for consumer applications, while China appears to affect performance factors, sizes, key-operated convenience, price, after-sales service, brand awareness, application factors were affected.

Keywords: Brand Awareness, Consumer, Convenience, Critical Factor, Smartphone

1. Introduction

Recently in Korea, smartphone users have increased rapidly. According to the telecommunication industry, the number of users that signed up for smartphones has surpassed 40.8 million on January 2015. Broad Wi-Fi coverages, diverse consumer contents, attractive smartphone units, and the competitive nature of Korean users are possible reasons for the rapid increase¹⁰. On the other hand, the development of the related technologies also is accelerating the increase of smartphone users. Hence, it is predicted that this increase would continue for the time being. As people adapt to the current information age, roles and values of smartphones would be extended. Our daily lives would be more and more affected by smartphones. Smartphones are not only for

calling someone; smartphones are like handheld personal computers. Thus smartphones are now valued as devices to obtain information.

Hyeyang Jo⁵ stated that smartphone users, through quality information they obtain using devices, become more satisfied with their smartphone experiences. The changes brought by smartphone usages are affected by the world's largest market, China. The consumption patterns in China are quickly progressing and currently Chinese consumers' smartphone usages are providing opportunities to companies. This paper would analyze differences in Chinese and Korean consumers by comparing the factors that affect their smartphone purchases; thus providing smartphone companies basic for making global strategies in selling smartphones.

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2. Study Background

Many smartphone related papers have conducted researches in Technology Acceptance Model (TAM Model) perspective. TAM Model is based on the Theory of Reasoned Actions (TRA). TAM Model analyzes functions, perceptive responses, emotional responses, and behavioral responses and how factors affect each other in a computer based system; ultimately explaining technology usages and acceptance levels. TAM Model specially defines perceived usefulness and perceived ease of use, both of which are belief factors, as the core factors that influence usage behaviors of technologies^{3,4}. Chen et al.², carried out an analysis on the shipping industry to research how smartphones are becoming widespread and accepted. Chen's research pointed out that smartphones' usefulness and ease of use have positive influences on attitudes. Attitudes and usefulness, in turn, have positive influences on inducing behaviors². Nam Ho Jung, Gun Chang Lee conducted a research on reasons for continued smartphone usages targeting truck drivers of the shipping industry.

Jung and Lee first considered the characteristics of truck drivers' works as pre-determining factors of usefulness and ease of use. Defining the connectivity and the situation perceiving functions came afterwards. According to the research, both the connectivity and the situation perceiving functions turned out to have influences on the belief factors⁷. Jun Gu Jung, Gi Jin Jang⁶ examined how belief factors, such as usefulness and ease of use, and outside factors, such as social perceptions and distinguished contents, affect each other. In addition, usefulness and ease of use have been considered as important factors in some researches^{8,9}. As mentioned, now researches concerning smartphones are conducted continuously. However most of researches cover consumers' attitudes and selection factors in a specific country. Thus this paper, as mentioned in the introduction, compares and researches selection factors of Chinese consumers and Korean consumers with the hypothesis below.

The hypothesis: In terms of selection factors, Chinese consumers and Korean consumers will differ.

3. Research Analysis and Results

3.1 The Survey Set Up

For the comparisons, smartphone users were targets; Korean consumers and Chinese consumers residing in Korea. The survey was conducted from 2014/11/10 to 2014/12/20. First, in the case of Korean consumers,

total 120 questionnaires were distributed and 114 questionnaires were returned. 5 of 114 returned questionnaires were deemed to be unsuitable for this research and the remaining 109 questionnaires were used. In the case of Chinese consumers, the survey was conducted targeting Chinese consumers residing in Korea. Total 80 questionnaires were distributed and 75 questionnaires were returned. Excluding 7 questionnaires that were unsuitable, total 68 questionnaires were used for this research. This paper for the hypothesis testing has used a number of analysis methods.

Firstly, for the basic specialty of the samples, a basic statistical analysis was performed. Secondly, Cronbach's α constant was used to keep the internal consistencies between the samples examining the confidence levels. In the third place, for the validity of the research, explanatory factor analysis was performed. Finally, to keep the relationships and statistical significances between the independent and dependent variables clear and straight, multiple regression analysis was used. For the analysis mentioned above, SPSS 18.0 was used.

3.2 The Basis Analysis

The basic analysis of the responders is as Table 1. As can be seen in Table 1 in the case of the Korean consumers, the male percentage is 53.2% and the female percentage is 46.2%. In terms of age, teens take up 3.7%, 20s take up the highest 79.2%, 30s take up 9.2%, and 40s or above take up 7.3%. In terms of education levels, enrolled in college is the highest 65.1%. And in terms of jobs, student is the highest with 72.5%. In the case of the Chinese consumers, the male percentage is 29.4% and the female percentage is 70.6%. In terms of age, teens take up 2.9%, 20s take up 76.5%, 30s take up 11.8%, and 40s or above take up 8.8%. In terms of education levels, enrolled in college is the highest 44.1%. In terms of jobs, student is the highest with 58.8%.

3.3 The Hypothesis Testing

3.3.1 The Confidence and Validity Analysis

This research, in the confidence analysis used Cronbach's alpha constant to conduct the confidence analysis; figuring out the internal consistency. The results of the confidence analyses on the independent variables are listed in Table 2. The alpha constants for all the variables are above .70 showing high confidence levels. On the other hand, the factor analyses were used to verify the decision validities of the

whole factors. In this paper, the main components analysis, which is used to group the most amount of information in the least number of factor groups. Varimax method, among orthogonal rotations, was used for the factor rotation. For determining the factor number the eigen value standard was used and factors having one or more eigen values were selected. Communalities are obtained by squaring factor loadings of specific factors. These communalities show mutual influences of factors and usually a communality value of ± 0.3 or more shows that there is a similarity. Sometimes with the conservative standard, a communality value of ± 0.5 is used as the border line¹. In this paper units with factor loadings of less than ± 0.6 were excluded from the final analysis. As the result of the factor analysis, the factors determining smart phone usages satisfactions were grouped into twelve different factors, one more than eleven that was initially planned. Also the smart phone satisfaction rate showed to be one factor showing the decision validity.

3.4 Verifying the Hypothesis

To test the hypothesis, the dependent variable, smartphone usage satisfactions, and the twelve independent variables were used for the multiple regression analysis. The verification was carried out by analyzing the factors that affect Korean and Chinese customers' satisfaction rates. The result of Korean consumers' analysis can be found in Table 3.

The multiple regression analysis on the Korean consumers showed the regression equation ($F = 35.169$, $p < 0.001$), a statistically significant result. And the reliability (R^2) was 81.6%. The multiple regression analysis on the Chinese consumers showed the regression equation ($F = 23.169$, $p < 0.001$), also statistically significant. And the reliability (R^2) was 83.6%. Among the Korean consumers' smart phone selection factors, designs, sizes, usages conveniences of screens, popularities, and applications turned out to be important factors. In summary, it could be interpreted that the Korean consumers were sensitive to smart hones' designs,

Table 1. Basic analysis on the samples

Division			number of responders	Percentage (%)
Gender	Korea	Male	58	53.2
		Female	51	46.8
	China	Male	20	29.4
		Female	48	70.6
Age	Korea	20s~30s	97	89
		40s or above	12	11
	China	20s~30s	60	88.3
		40s or above	8	11.7
Education levels	Korea	High School Diploma or below	11	10.1
		College graduate	89	81.6
		Graduate school or above	9	8.3
	China	High School Diploma or below	2	2.9
		College graduates	28	55.9
		Graduate school or above	28	41.2
Average monthly income	Korea	Equal to or below 1,000,000 won	43	39.4
		1,010,000 ~3,000,000 won	30	27.5
		3,010,000 won or above	35	32.1
	China	Equal to or below 1,000,000 won	42	61.8
		1,010,000 ~3,000,000 won	22	32.4
		3,010,000 won or above	4	5.9
Job	Korea	Professional jobs	13	11.9
		Employee	12	11.9
		Student	79	72.5
		House wife	4	3.7
	China	Professional jobs	8	11.8
		Employee	8	11.8
		Student	40	58.8
		House wife	12	17.6

sizes, usage conveniences of screens taking how smart hones look into account. On the other hand, the Chinese consumers reacted more to smartphones' capacities, sizes, prices, brand awareness, and applications. The results above showed that the Chinese consumers chose smart hones focusing more on functional factors such as smart hones'

capacities, keyboard conveniences, and prices. The Chinese consumers also considered brand awareness important. Both the Korean and Chinese consumers considered smart hones' sizes and applications important. This result shows that both the Korean and Chinese consumers take practical factors importantly.

Table 2. Validity and confidence analysis results

Items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	Depen-dent factor	Cron- bach's α
Capacity 1	.638													.789
Capacity 2	.643													
Design 2		.635												.870
Design 3		.699												
Design 4		.633												
Color 1			.713											.863
Color 2			.820											
Color 3			.777											
Size 1				.778										.879
Size 2				.760										
Size 3				.678										
Usageconvenience keypad1					.690									.822
UCK2					.751									
UCK3					.718									
UCK4					.790									
Usage conveniences Screen1						.714								.908
UCS2						.641								
UCS3						.797								
UCS4						.829								
Price 1							.880							.913
Price 2							.912							
Price 3							.828							
Price 4							.834							
After-sales services1								.827						.952
AS2								.805						
AS3								.873						
AS4								.869						
Durability1									.902					.962
Durability2									.900					
Durability3									.895					
Popularity1										.820				.927
Popularity2										.771				
Popularity3										.783				
Brand awareness1											.853			.860
BR2											.793			
Application1												.740		.924
AP2												.795		
AP3												.847		
AP4												.857		
Usage satis -factions1													.912	.949
US2													.911	
US3													.850	
US4													.831	

Table 3. The factors that influence Korean consumers smartphone satisfaction rates

Dependent variable/ Independent variable	Customer satisfactions		
	Beta	t	Sig.
Capacity	-.072	-1.098	.275
Design	.166	2.312	.023*
Color	-.025	-.0457	.649
Size	.228	3.746	.000**
Usage Conveniences- Keyboard	-.018	-.322	.749
Usage Conveniences- Screen	.156	2.197	.030*
Price	-.013	-.252	.802
After sales services	.055	.855	.395
Durability	-.051	-.865	.389
Popularity	.270	4.278	.000**
Brand awareness	.054	1.002	.319
Applications	.403	6.135	.000**
R2		.816	
F(Sig.)		35.169 (.000**)	

p>0.1*, p>0.05**, p>0.01***

Table 4. The factors that influence Chinese consumers smartphone satisfaction rates

Dependent variable/ independent variable	Customer satisfactions		
	Beta	t	Sig.
Capacity	-.187	-2.116	.039*
Design	.152	1.890	.064
Color	.033	.482	.632
Size	.247	2.994	.004**
Usage conveniences- Keyboard	.205	2.362	.022*
Usage conveniences- size	-.043	-.395	.694
Price	-.306	-5.638	.000***
After-sales services	.161	2.113	.039*
Durability	.086	1.030	.308
Popularity	-.024	-.438	.663
Brand awareness	.218	3.364	.001***
Applications	.505	6.284	.000***
R2		.836	
F(Sig.)		23.385(.000**)	

p>0.1*, p>0.05**, p>0.01***

4. Discussion

This research can be summarized as below. Firstly, the Korean consumers and Chinese consumers are influenced by different factors when choosing smartphones. Designs, sizes, usage conveniences of screens, popularities, and applications were the factors that influenced the Korean consumers when choosing smartphones. On the other hand capacities, sizes, usage conveniences of keyboards, prices, after-sales services, brand awareness, and applications were the factors that affected the Chinese

consumers when choosing smartphones. The differences above can be interpreted as: the Korean consumers take visual factors more into considerations while the Chinese consumers take functional factors more into considerations when choosing smartphones. In other words, the Korean consumers consider how they look (visual factors) when choosing smartphones and the Chinese consumers consider their actual smartphone experiences (functional factors).

This kind of result may have originated from the differences in the Korean and Chinese consumption patterns, values, and cultures. In conclusion, international companies should consider diverse consumption patterns of different countries. Analyzing the county specific consumption patterns and making the right marketing strategy would yield a promising result.

5. References

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