A Comparative Study on the Adoption of Mobile Devices

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Abstract : *The global market for mobile phone business is already matured. Accordingly the repurchasing issue for the mobile phone is being weighted drastically by the marketers. The purpose of this research is to investigate the relationships among seven crucial factors, and also examines the differences between Korean and Indonesian markets concerning the relationships of these key success factors. This research classifies these two markets as a matured market and an emerging market respectively. The structural model is tested with the data from each of the sub-samples. The analysis of the multi-group structural equation model (MSEM) showed that compared to Korean, Indonesian had more emphasized on extra-functions for the mobile phone as well as giving more influence on satisfaction from brand image. Due to the different market situation and users, the lessons to which product features must be more emphasized could be obtained for the product managers in the industry.*
Keywords: *Mobile devices; Multi-group structural equation model; Trust; Satisfaction; Commitment; Repurchasing intention*

1. Introduction

The global market for cellular phone business has been drastically changed as it entered into a matured market stage. The total number of cellular phones sold in 2001 was about 400 millions sets, minus 3.2 percents sales growth compared to that in 2000, which was the first minus growth in the market. Especially the average growth rate of 8 percents from 2001 through 2005 supports that the market has been matured (Gartner Group, 2002). In 2001, the repurchasing market surpassed the new purchasing market in 2001 and has been increased (Ha, 2002).

Since the factors affecting in repurchasing a cellular phone must be different from those in newly purchasing market, the need of study on repurchasing cellular market is crucial. By emphasizing or eliminating product features and/or services, the speed of adoption and expansion for customers may be affected (Venkatesh & Davis. 1996). From the standpoint of companies, the analysis of current users' perception supports the forecast of future demand. Also the need for figuring out critical factors of repurchasing cellular phones requires a balanced investigation of both suppliers and customers.

Different market structures may influence the adoption of cellular phones as well. This paper examines the differences between Korean and Indonesian markets. Korea has been the first-ranked country of cellular phone manufacturing and sales while Indonesia is a typical developing country that has an enormous potential of 0.2 billion

population. This research classifies these two markets as a matured market and an emerging market respectively. The comparison between two countries is expected to provide the differences among affecting factors on repurchasing cellular phones, and also practical needs of differentiated marketing strategies.

2. Research Model

The objective of this research is to investigate the relationships among seven crucial factors – the perceived satisfaction, the perceived trust, the commitment, the key features for mobile phone, the brand image, the switching cost and the repurchasing intention. It also examines the differences between Korean and Indonesian markets concerning the relationships of these key success factors.

To achieve the research objectives, we proposed the following research model as shown in Figure 1. Product features identified by a direct questioning are hardware, user interface, and additional functions. Hardware features include sound, display, and design, while user interface features include graphic user interface, hot keys, and menu structure. Additional functions include wireless internet, MP3, and camera functions. Also brand image and switching costs were also analyzed as factors affecting perceived satisfaction, trust, perceived commitment, and ultimately repurchasing intention. We developed 16 hypotheses to test the differences between Korea and Indonesia markets.
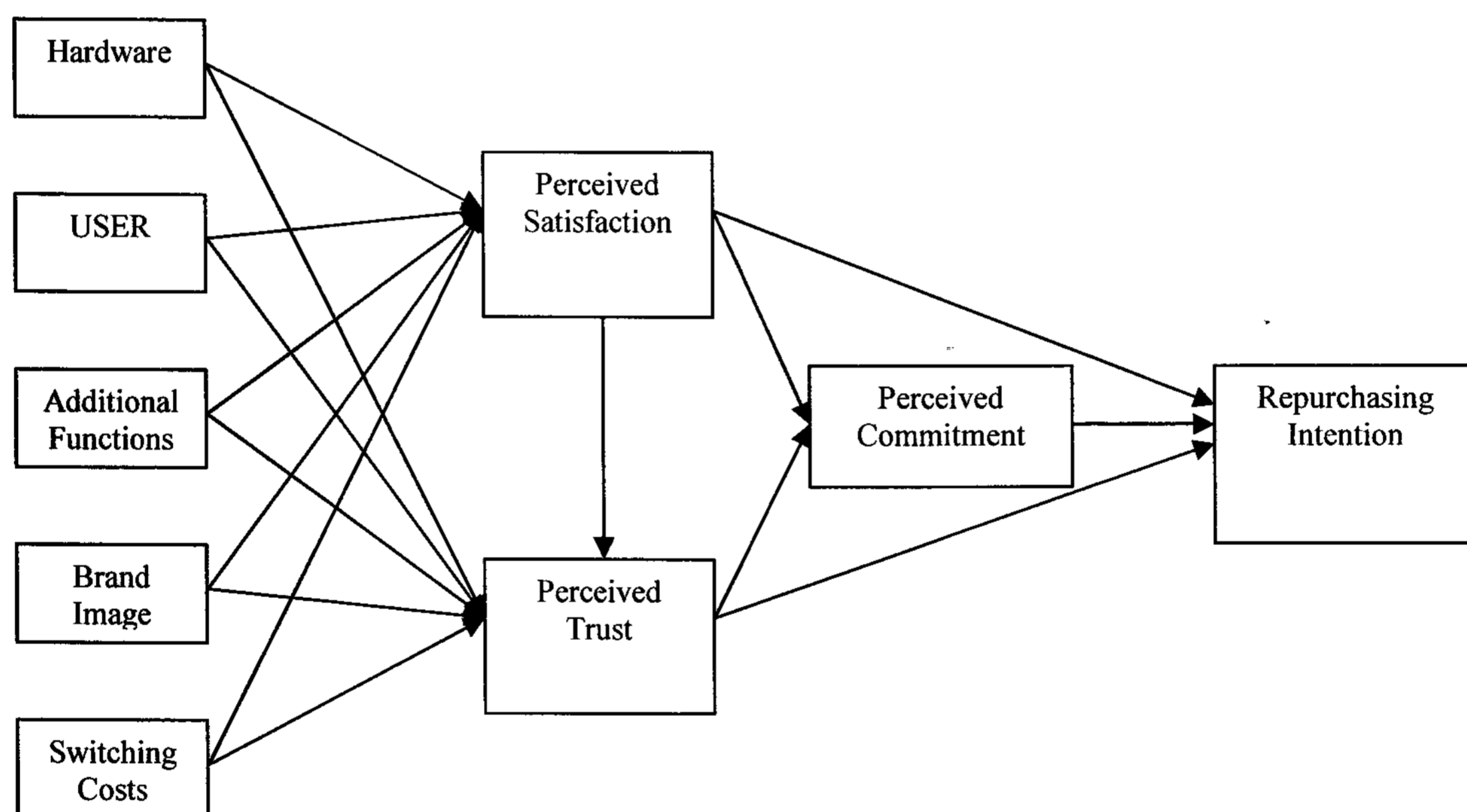

Figure 1. Research Model

3. Data Collection

Online survey has been conducted in Korea for users of S-brand cellular phones while questionnaire survey has been conducted in Indonesia. All of survey questions but general items are examined by 7-point Likert-scale. In Korea, the number of responses are 223, and 44 responses were deemed invalid because of too many incomplete or missing values. Finally 179 valid cases were used for analysis. In Indonesia, of the 255 questionnaires, the total number of valid cases was 234. SPSS 12.0 and LISREL 8.30 was used for this empirical analysis.

4. Multi-group Structural Equation Model

A multi-group structural equation model(MSEM) was used to identify the differences between two countries. While a structured equation model(SEM) analyzes causal relationships among factors in one group, an MSEM is a model to analyze the differences of causal relationships of factors among groups. However measurement equivalence should be tested prior to applying an MSEM for the analysis among groups(Bagozzi, 1994; Dholakia, 1980). Also it is necessary to apply not only a multigroup confirmatory factor analysis(MCFA) for the confirmation regarding on the same factor structures, but also a confirmatory factor analysis(CFA) for the test of homogeneity of two groups(Byrne, 1998; Marcoulides, 1997; Calantone et al., 2001; Doll et al., 2004).

5. Results and Discussion

We have conducted a test of the differences in path coefficients between Korean and Indonesian users, and the results are as shown in Table 1. The analysis of the Multi-group Structural Equation Model (MSEM) showed that compared to Korean, Indonesian had more emphasized on extra-functions for the mobile phone as well as giving more influence on satisfaction from brand image. It means that the matured market like Korea tends to consider the extra-functions as basic or no-premium points. Also satisfaction has been affected by switching-cost in Korea while it has been affected by trust in Indonesia. One of other interesting results from the structural weight invariance indicates that brand-image has affected on satisfaction in addition to trust on determining commitment in Indonesia.

Table 1. Results of Structured Weight Invariance

Path	Result	Sig.
Hardware → Satisfaction	Korea = Indonesia	0.57
Brand Image → Satisfaction	Korea < Indonesia	5.47**
Satisfaction → Trust	Korea = Indonesia	1.33
Satisfaction → Commitment	Korea = Indonesia	0.28
Trust → Commitment	Korea < Indonesia	3.58**
Satisfaction → Repurchasing Intention	Korea = Indonesia	0.02
Commitment → Repurchasing Intention	Korea = Indonesia	0.96

** $p < 0.01$

6. Conclusion

This research provides an empirically-tested framework for comparative study between different national markets. It also furnishes some valuable practical lessons as well. First, Indonesian market showed more influence of brand image on perceived satisfaction than Korean market. Especially, this result can be found in the used cellular phone market. Indonesian customers prefer used cellular phones of highly recognized brand to new phones of little-known brand. Second, Indonesian market showed that perceived trust influenced on perceived commitment more than in Korea. It is related with the different nationalities between two countries. Once the product gets reliability from customers, then Indonesian people have stronger tendency and value to keep the relationship than Korean. These findings confirm the necessity of different marketing and business strategies depending on the national markets, and suggest the possible routing of marketing strategies as a market becomes matured.

References:

References will be furnished upon request.