

A Study on the Switching Intention about Smart Phone: Focusing on Customer Behavior in China

Pan Huifeng¹ and Man-su Kang^{2*}

¹*Beijing Institute of Graphic Communication; Post-Doctoral Research Station in Business Administration of TsingHua University, Beijing, China*

²*Dept of Research, Korean Federation of Credit Gaurantee Foundations, Daejeon 302-120, Korea*

¹282123934@qq.com, ²jazzmusi@koreg.or.kr

Abstract

This study examines the effects of perceived value among smart phone users on customer satisfaction, brand trust, brand loyalty, and switching intention in order to analyze the process of purchasing smart phone in China. To this end, a survey was conducted among Xiaomi and Galaxy smart phone users in Shanghai, China.

The results show that perceived value had no direct effect on brand loyalty and switching intention, but it turned out that perceived value had indirect effect on brand loyalty through brand trust when the mediating effect was measured. In addition, it turned out that customer satisfaction had direct effects on brand trust while it had no direct effect on brand loyalty and switching intention. Brand trust had direct effects on brand loyalty and switching intention, and it also had indirect effects on switching intention through brand loyalty. It also turned out that brand loyalty had direct effects on switching intention, and that perceived value in the general model of this study had direct effects on brand trust. The mediating effect through customer satisfaction indicates the function of a partial mediating model. Since perceived value had no direct effect on brand loyalty, the mediating effect through brand trust indicates the function of a complete mediating model. Since customer satisfaction had no direct effect on brand loyalty, the mediating effect through brand trust indicates the function of a complete mediating model.

It is thought that the findings of this study will contribute to establishing marketing strategies to secure competitive edge among smart phone competitors in China. In addition, if smart phone suppliers in the Chinese market desire basic materials for the establishment of marketing strategies differentiated from those of competitors, the findings of this study can be utilized and helpful for such strategies.

Keywords: *Perceived Value, Customer Satisfaction, Brand Trust, Brand Loyalty, Switching Intention, Smart Phone*

1. Introduction

In 2015, the number of mobile phones shipped in the Chinese market reached 518 million units, which is 14.6% more than that in the previous year. In particular, the number of 4G mobile phones shipped was 440 million units, which indicates that the growth rate compared to the previous year is 157%, and that 4G mobile phones accounted for a significant portion of the total shipments of mobile phones sold in 2015[1]. TrendForce [2] announced the market shares in the Chinese smart phone market in the year of 2015. Top 5 of the manufacturers were all Chinese smart phone manufacturers, which indicates that the quality and price competitiveness of Chinese smart phone manufacturers has been improved. In addition, the current condition of global smart

*Corresponding Author

phone markets shows that 7 out of the top 10 smart phone brands are Chinese brands: The market shares of Huawei, Xiaomi, and Lenovo are ranked the third, fourth, and fifth respectively. They are threatening the positions of the top two companies, Samsung and Apple in the order. The Chinese smart phone market has become a field of competition of many smart phone manufacturers including Apple, Xiaomi, Samsung, Huawei, Lenovo, and so forth. although Chinese smart phone manufacturers are still in a dominant position when it comes to market shares.

The current condition stated above corresponds to the assumption that Chinese consumers would prefer low-price mobile phones affordable in their financial status. Besides, Samsung Galaxy maintains the unshakable position with the top market share in Korea. Xiaomi and Galaxy, however, show different patterns: Xiaomi continues to grow in China while Galaxy's market share continues to decrease in China. While market channels and personnel changes are related to the causes, the most important aspect is that interests in low-price, high performance smart phones have increased among Chinese customers more than before. In other words, as Chinese people basically prefer products by their domestic companies and the Chinese government has supported such manufacturers implicitly, which are the two deciding factors, their technical power has been improved up to the point of catching up with Xiaomi and Galaxy. According to Gartner [3], when middle-class customers in China purchase mobile phones, the primary factors that they consider are brands and service quality.

Although the smart phone market in China has grown fast, Chinese smart phone manufacturers lack new technology developing capabilities in the production process as well as testing and product quality improving abilities. As a result, quality surveys after production and new product development are neglected. In addition, there are various problems in relation to follow-up customer service and guarantee of basic rights of customers. Even in the process of providing telecommunication services for the supplied smart phones, problems such as leakage of customer data have caused Chinese customers to lose trust in their services. Complaints among customers continue to increase gradually.

The changes in the Chinese smart phone market stated above indicate that companies that grasp consumer behaviors earlier than others gain advantages in competition. According to Lattin and McAlister [4], customer needs for variety may result from desires for changes, pursuits of things new, or satisfying only some of various needs. to satisfy the rest of the needs, customers may develop the desire to pursue variety. Morgan and Hunt [5] verify that the perceived value between purchasers and suppliers has positive effects on buyers' commitment to and trust in suppliers. Fournier [6] also states that customers prefer brands that correspond to their values and that are appropriate for expressing themselves. Preferred brands are stamped on customers' minds and the level of preference tends to increase. He also states that perceived value has positive (+) effects on satisfaction with brands, trust, and loyalty while they are in a negative (-) relation with switching intention.

This study examines the process after Chinese customers purchase smart phones. To this end, a survey was conducted by an entrusted internet-based research agency among Xiaomi and Galaxy users in Shanghai, China, in order to examine the correlations among perceived value of smart phone users, customer satisfaction, brand trust, brand loyalty, and switching intention and also to verify the moderating effects shown among customers of Xiaomi and Galaxy, which are recognized as competitors in the Chinese smart phone market. As mentioned earlier, this study analyzes the effect of perceived value among smart phone users in the Chinese smart phone market on brand trust, customer satisfaction, brand loyalty, and switching intention, as well as difference among these variables. It is expected that the findings of this study will contribute a lot to establishing marketing strategies to be more competitive than other companies in the Chinese smart phone market. In addition, if smart phone suppliers in the Chinese smart phone market desire basic materials for the establishment of marketing strategies differentiated from

those of competitors, the findings of this study can be utilized and helpful for such strategies.

2. Theoretical Backgrounds

2.1. Definitions of Perceived Value, Customer Satisfaction, Brand Trust, Brand Loyalty, and Switching Intention

As for the concept of 'perceived value' in the field of marketing, the definition of Zeithaml [7] is most commonly used. Zeithaml [7] classifies perceived value into 4 aspects: First, value is 'price.' In other words, value may be viewed as same with price. Second, value is 'what I get for what I give.' Third, value is the 'trade-off effect' between perceived product quality and price. The second and third meanings indicate the key role of value in the process of exchange, that is, the trade-off between cost and benefit. Fourth, value is general evaluation of subjective worth with evaluation criteria taken into considerations.

In addition, Bolton and Drew [8] define perceived value as general evaluation of products and services that are provided for the price paid by a customer. In the perspective of trade-off between sacrifice and benefit, Blackwell, Miniard, and Engel[9] defines perceived value as the difference between the benefit from certain goods or service that a customer uses and the expense that the customer has to pay. In the follow-up study, this approach is developed as a strategic perspective as it defines perceived value as perception of quality that a customer acquires in exchange with monetary (payment) and non-monetary (effort and time) expenses in comparison with other competing products [9-12].

Customer satisfaction may be realized not only by chosen products but also purchasing experience itself, sales persons, or retailers. Customer satisfaction and dissatisfaction are result of evaluating purchased products in two different dimensions, that is, practical utility (the product's performance) and empirical utility (feeling that comes from using that product) [13]. In other words, Oliver [14] defines it as perceived value as a comprehensive psychological state that combines existing feelings about the discrepancy between the expectation of the product or service and the recognized actual result.

As mentioned by many existing researches, the concept of loyalty is similar to that of relationship commitment, which is addressed in relationship marketing literature, in that it maintains the desire to develop a valuable relationship. Oliver [15] defines loyalty as deep commitment to a specific brand that induces one to continue buying preferred products or services. To put it another way, brand loyalty may be defined as a certain attitude to continue the exchange relation between a product and the price based on previous purchase experiences.

Switching intention consists of motivating factors that affect behaviors. It is an indication of efforts to put into action. In general, the stronger will one has, the more likely that one puts into practice what he or she wants to do. In the context of service switching, switching may be called a customer's breakaway according to Reichheld and Sasser [16]. Keavenney [17] views it as decrease of regular customers. Thus, switching intention means decrease of regular customers as a result of customers' service switching. In the context of switching behavior, customers' switching intention results from desires for change or things new rather than dissatisfaction with purchased goods..

2.2. Relations among Perceived Value, Customer Satisfaction, Brand Trust, Brand Loyalty, and Switching Intention

Switching intention consists of motivating factors that affect switching behavior. Reichheld and Sasser [16] defines switching intention as an act of customers to stop the relation with companies voluntarily or involuntarily. Fazio[18] views that information and

analysis of costs and benefits are deciding factors of switching intention in the process of switching behavior as customers show switching behavior. As switching intention results from some complaints or other causes, companies utilize various marketing strategies to prevent customers from developing such switching intention. To prevent switching intention from being expressed, perceived value between a company's brand and customer needs to be enhanced so that customers stop considering to choose another brand. In general, switching intention is expressed when customers are not satisfied. However, customers may develop switching intention not because of dissatisfaction but in pursuit of variety. According to precedent study argue that as perceived value is a basis for all marketing activities, enhanced perceived value becomes a major factor that motivates customers to continue using that brand, and that switching intention may be varied depending on how customers recognize the value. According to precedent researches, the higher the perceived value is, the more the switching intention decreases. As perceived value is high, the level of satisfaction among customers will increase their trust in the product will be positively affected according to related precedent researches. As for switching intention due to dissatisfaction or mistrust, it will be reduced as the perceived value increases among customers. In other words, as perceived value is high, switching intention will be reduced due to the switching cost [8-17].

In view of precedent studies, perceived value has positive (+) effect on customer satisfaction, trust in the brand, and loyalty while it has negative (-) effect on switching intention. Thus, to verify the effect of perceived value on customer satisfaction, brand trust, brand loyalty, and switching intention, this study presents a research model for the following hypotheses based on the findings of existing studies:

3. Methodology and Research Model

3.1. Research Model

This study examines the relations among the following factors based on the precedent studies: perceived value in relation to Chinese smart phone brand switching intention, customer satisfaction, brand trust, brand loyalty, and switching intention. To this end, hypotheses on the effects are developed and verified. In addition, a hypothesis on the mediating effect and moderating effect depending on the brand types - product characteristics of Galaxy and Xiaomi-is developed and verified.

In a way of dimension reduction, the research model is simplified to address only the 5 factors: perceived value, customer satisfaction, brand trust, brand loyalty, and switching intention. This study proposes the research model shown in Figure 1. To examine the moderating effect of each channel depending on the brand types of smart phones, Galaxy and Xiaomi, the channels from hypothesis 1 to hypothesis 10 are analyzed, and then channels of significant influence are examined with regard to the moderating effect.

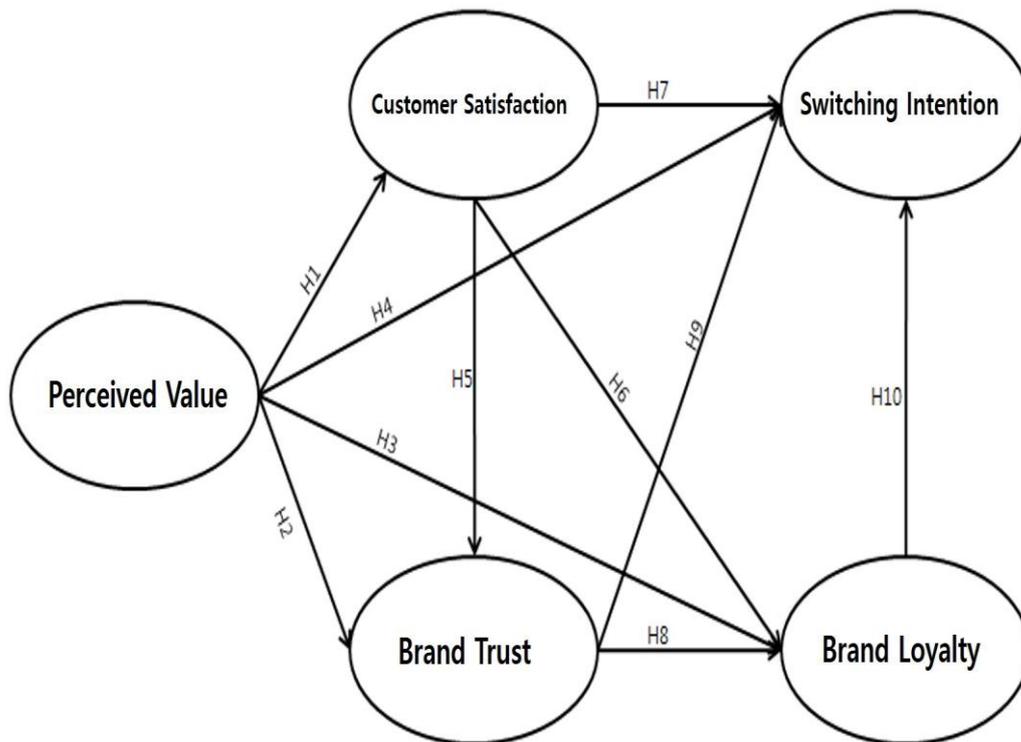


Figure 1. The Research Model [19]

3.2. Data Collection

This study includes a survey conducted by SoJump, the entrusted internet-based survey agency, among 600 individuals including 300 users of Galaxy products and 300 users of Xiaomi products who were all aged 20 or older to verify the proposed research model. With 83 questionnaires with unfaithful answers excluded, 507 were collected and used in the analysis.

As for demographic characteristics of the sample, 249 individuals (49.1%) were using Galaxy while 258 (50.9%) were using Xiaomi. 261 (51.5%) were male while 246 (48.5%) were female, which indicates that the percentage of male participants was higher. 284 (56.0%) were in their 20s, and 223 (44.0%) in their 30s. In the initial stage of this study, the final participants were selected among those in their 20s or 30s because these people would have easy access to newest electronic gadgets and more actively use those devices than others. In addition, 70.2% of the participants were married. The income level of 89.2%, the largest portion, was between 3,000RMB and 15,000RMB. Although most of the participants in the sample group were in their 20s or 30s, 91.7% were in middle management occupations. Thus, this sample was appropriate for a study related to the use of smart phones.

Finally, means of acquiring information on smart phones, 272(53.6%) would use online methods, 25(4.9%) offline methods, and 210 (41.4%) both online and offline methods. This indicates that information channels have been diversified as IT advances in China as well. Table 1, below shows demographic characteristics of this sample:

Table 1. Demographic Characteristics of the Sample

Classification		Frequency (individuals)	Percentage (%)
Brand	Galaxy	249	49.1
	Xiaomi	258	50.9
Sex	Male	261	51.5
	Female	246	48.5
Age	20~29	284	56.0
	30~39	223	44.0
Married/Single	Single	148	29.2
	Married	356	70.2
	Etc. (divorced, separated, etc.)	3	0.6
Income Level	3000RMB or lower	23	4.5
	3001 - 5000RMB	110	21.7
	5001 - 7000RMB	115	22.7
	7001 - 10000RMB	140	27.6
	10001 - 15000RMB	87	17.2
	15001RMB or higher	32	6.3
Means of Information Acquisition	Online	272	53.6
	Offline	25	4.9
	Online and offline	210	41.4

4. Empirical Analysis

4.1. Analysis of Reliability and Validity

To verify the reliability of variables used in this study, the measuring tool was examined by means of Cronbach's coefficient. Cronbach's coefficient is used when multiple items are involved in analyzing the same concept, but as the number of items increases, Cronbach's coefficient become larger accordingly, which is a disadvantage. Thus, Fleise [20] views that it is necessary to analyze various elements of reliability such as Kappa statistics. Although the standard proposed by Nunnally [21] views the tool as reliable when Cronbach's coefficient is 0.6 or larger, but according to the exploratory research, reliability is verified when the coefficient is 0.5 or larger. As shown in Table 2, when Cronbach's coefficient is 0.6 or larger for every factor except customer satisfaction, reliability is verified in this study. To use the variable of customer satisfaction, this study attempts to secure reliability through construct reliability and Kappa statistics. In general, when the level of construct reliability is 0.7 or higher, it is viewed that reliability and convergent validity are secured. As Kappa statistics is 2.263, reliability is viewed as significant [20]. Accordingly, it is thought that customer satisfaction can be utilized as an important variable in this study as verified in precedent studies.

Validity was examined by analyzing the AVE (average variance extracted) proposed by Hair, Black, Bakin, Anderson and Tatham [22]. As a result, AVE values of all variables were 0.5 or larger as shown in Table 3, and construct reliability was 0.7 or higher, which indicates that convergent validity was secured. In addition, as validity was

verified in the exploratory factor analysis, it would be appropriate to use this method without removing the item of customer satisfaction.

Table 2. Reliability Analysis

Variable	No. of Items	Cronbach's α	Concept Reliability	Note
Perceived Value	4	0.724	0.835	
Customer Satisfaction	2	0.482	0.701	Kappa statistics = 2.263(P=0.024)
Brand Trust	3	0.635	0.786	
Brand Loyalty	5	0.842	0.857	
Switching Intention]	5	0.8794	0.849	

Table 3. Confirmatory Factor Analysis

Variable	Cronbach's α	AVE	Concept Reliability
Perceived Value	0.724	0.56	0.835
Customer Satisfaction	0.500	0.54	0.701
Brand Trust	0.635	0.55	0.786
Brand Loyalty	0.842	0.55	0.857
Switching Intention	0.794	0.53	0.849
Fit Index	χ^2 (df=142)=268.098, CFI=0.959, TLI=0.951, IFI=0.960, RMSEA=0.042		

4.2. Result Analysis (Hypothesis Test)

To test the research model of this study, a path analysis was conducted by means of AMOS 21. As the fitness of the research model (total) was analyzed, =268.098, df=142, P=0.000, CFI=0.959, TLI=0.951, IFI=0.960, and RMSEA=0.042, which indicates that the model was satisfactory in general.

In an exploratory research, 0.1 of significance level was set as the range of hypothesis adoption in the regression analysis result. In line with these precedent studies, this study sets the significance level to 0.1 or lower.

As a result of the hypothesis test with 0.1 of significance level, hypotheses H3, H4, H6, and H7 were rejected, and all the other hypotheses were adopted. As for the rejected hypotheses H3, H4, H6, and H7, the values of were 0.166, 0.178, 0.170, and 0.249 respectively while the P-values were 0.172, 0.355, 0.303, and 0.356 respectively. Thus, the significance level was 0.1 or higher, and the hypothesis that each independent variable would affect independent variables was rejected. As for adopted hypotheses H1, H2, H5, H8, H9, and H10, the values of were 0.649, 0.355, 0.398, 0.671, -0.419, and -0.526 respectively, and the P-values were 0.000, 0.004, 0.011, 0.000, 0.091, and 0.000 respectively. Since the significance level was 0.1 or lower, the hypothesis that each independent variable would affect independent variables was adopted. <Table 4> shows the result of testing study hypotheses through the path analysis with the structural equations model utilized.

Table 4. Hypothesis Test [19]

Hypothesis	Channel			Non-standardized Estimation	Standardized Estimation	S.E.	C.R.	P	Result
	Perceived value	->	Customer satisfaction						
Hypothesis 1	Perceived value	->	Customer satisfaction	0.649	0.719	0.085	7.599	***	Adopted
Hypothesis 2	Perceived value	->	Brand trust	0.355	0.390	0.122	2.898	0.004	Adopted
Hypothesis 3	Perceived value	->	Brand Loyalty	0.166	0.146	0.122	1.366	0.172	Rejected
Hypothesis 4	Perceived value	->	Switching intention	0.178	0.105	0.193	0.924	0.355	Rejected
Hypothesis 5	Customer satisfaction	->	Brand trust	0.398	0.395	0.156	2.553	0.011	Adopted
Hypothesis 6	Customer satisfaction	->	Brand Loyalty	0.170	0.135	0.165	1.030	0.303	Rejected
Hypothesis 7	Customer satisfaction	->	Switching intention	0.249	0.133	0.270	0.922	0.356	Rejected
Hypothesis 8	Brand trust	->	Brand Loyalty	0.671	0.538	0.144	4.655	***	Adopted
Hypothesis 9	Brand trust	->	Switching intention	-0.419	-0.225	0.248	-1.688	0.091	Adopted
Hypothesis 10	Brand Loyalty	->	Switching intention	-0.526	-0.353	0.151	-3.494	***	Adopted
Fit Index	$\chi^2=268.098, df=142, P=0.000, CFI=0.959, TLI=0.951, IFI=0.960, RMSEA=0.042$								

Although the mediating effect is not specified in hypotheses of this study, the mediating effect of the structural equations model was measured in each channel of the research model (total) through the Sobel Test. As shown in <Table 5>, it turned out that customer satisfaction was a parameter of perceived value and brand trust, brand trust the parameter of perceived value and brand loyalty, and brand trust the parameter of customer satisfaction and brand loyalty respectively. Brand trust had no mediating effect on perceived value and switching intention, and neither did brand trust on customer satisfaction and switching intention. Brand loyalty had no mediating effect on brand trust and switching intention either.

To sum up: First, the direct effect on perceived value and brand trust indicates the mediating effect through customer satisfaction, and thus the function as a partial mediating model was involved. Second, since perceived value had no direct effect on brand loyalty, the mediating effect of brand trust can be explained with the function as a complete mediating model. Third, since customer satisfaction had no direct effect on brand loyalty, the mediating effect through brand trust can be explained with the function of a complete mediating model.

Table 5. Analysis of Mediating Effect

Channel	Classification	Test statistic	Std Error	p-value	Result
Perceived value → Customer satisfaction → brand trust	Sobel test	2.41977008	0.10674651	0.01553082	Adopted
	Aroian test	2.40131427	0.10756693	0.0163363	Adopted
	Goodman test	2.43865807	0.10591973	0.01474191	Adopted
Perceived value → Brand trust → Brand Loyalty	Sobel test	2.4681287	0.9651239	0.01358215	Adopted
	Aroian test	2.42822765	0.0980983	0.01517282	Adopted
	Goodman test	2.51006367	0.09489998	0.01207094	Adopted
Perceived value → Brand trust → Switching intention	Sobel test	-1.46108929	0.10180418	0.14399094	Rejected
	Aroian test	-1.40054518	0.10620507	0.16135012	Rejected
	Goodman test	-1.53023146	0.09720425	0.12595945	Rejected
Customer satisfaction → Brand trust → Brand Loyalty	Sobel test	2.23781517	0.11933872	0.02523311	Adopted
	Aroian test	2.19919203	0.12143460	0.02786427	Adopted
	Goodman test	2.27854745	0.11720537	0.02269398	Adopted
Customer satisfaction → Brand trust → Switching intention	Sobel test	-1.40864512	0.11838468	0.15894013	Rejected
	Aroian test	-1.33895965	0.12454505	0.18058381	Rejected
	Goodman test	-1.49048174	0.11188463	0.13609761	Rejected
Brand trust → Brand Loyalty → Switching intention	Sobel test	-1.58833498	0.17700863	0.11221061	Rejected
	Aroian test	-1.55696354	0.1805752	0.11947914	Rejected
	Goodman test	-1.62168251	0.17336871	0.10487135	Rejected

To measure the moderating effect of difference test, a multi-group analysis was conducted, and a free model was set on the assumption that the following relation would not be different depending on the brand types: perceived value → customer satisfaction, perceived value → brand trust, customer satisfaction → brand trust, brand trust → brand loyalty, brand trust → switching intention, brand loyalty → switching intention. This was used as a model for difference test in comparison with the equality constraint model with the equal constraint to brand types. As shown in Table 6, the moderating effect of Galaxy and Xiaomi, the two brand types, on each channel adopted by hypotheses was measured: As for the free model, (df=284)=465.777; as for the equality constraint model of perceived value → customer satisfaction, (df=285)=466.675; as for perceived value → brand trust, (df=285)=467.535; as for customer satisfaction → brand trust, (df=285)=466.986; as for brand trust → brand loyalty, (df=285)=465.780; as for brand trust → switching intention, (df=285)=465.944; and as for brand loyalty → switching intention, (df=285)=466.404. The values of Δ that indicates the difference between the free model and equality constraint model are as follows: perceived value → customer satisfaction 0.898, perceived value → brand trust 1.758, customer satisfaction → brand trust 1.209, brand trust → brand loyalty 0.003, brand trust → switching intention 0.167, and Brand loyalty → switching intention 0.627. The significance level was all 0.01 or higher, which indicates that there was no moderating effect depending on brand types.

Table 6. Analysis of Moderating Effect

Model	χ^2	df	CFI	RMSEA	$\Delta \chi^2$	p-value
Free Model	465.777	284	0.940	0.036		0.000
Equality Constraint Model (Perceived value → Customer satisfaction)	466.675	285	0.941	0.036	0.898	0.000
Equality Constraint Model (Perceived value → Brand trust)	467.535	285	0.940	0.036	1.758	0.000
Equality Constraint Model (Customer satisfaction → Brand trust)	466.986	285	0.940	0.036	1.209	0.000
Equality Constraint Model (Brand trust → Brand Loyalty)	465.780	285	0.941	0.035	0.003	0.000
Equality Constraint Model (Brand trust → Switching intention)	465.944	285	0.941	0.035	0.167	0.000
Equality Constraint Model (Brand Loyalty → Switching intention)	466.404	285	0.941	0.036	0.627	0.000

5. Conclusions

5.1. Summary of Findings

First, existing researches on perceived value were conducted mainly in the field of marketing. Although perceived value is explained in the causal link with trust, satisfaction, brand loyalty, and switching intention in most of the researches, there is no research on the causal link between perceived value among Chinese customers and the other factors – trust, satisfaction, brand loyalty, and switching intention. Besides, there is little research on Korean smart phone brands and Chinese smart phone brands. Thus, this study examines the process of behavior after purchasing smart phones among customers in Shanghai, China. Specifically, their behaviors after purchasing Galaxy and Xiaomi are analyzed: The difference between high-price smart phones of Galaxy and low/middle-price smart phones of Xiaomi perceived by Chinese customers in terms of perceived value was examined. As for the survey participants, those in their 20s or 30s who had purchasing power were selected as the sample customers in the research. This is because it was thought that customers in these age groups would be much interested in smart phones. Thus, this study is of significance in that it thoroughly examines patterns of purchasing behavior among smart phone customers in Shanghai, China, and changes in their behavior after smart phone customers in China purchased Galaxy and Xiaomi smart phones.

Second, the path analysis of the entire model shows that perceived value had direct effect on customer satisfaction and brand trust. This result indicates that when the value gained by purchasing smart phones is high compared to the cost, it affects customer satisfaction and brand trust positively. In addition, mediating effect was also analyzed to grasp the relation more specifically. As a result, it turned out that customer satisfaction had mediating effect in the relation between perceived value and brand trust. This indicates that as the value perceived by customers in the process of purchasing and using smart phones is high compared to the paid cost, the customers are likely to be satisfied with the brand and trust the smart phones of that brand more than before.

In the path analysis of the entire model, perceived value had no direct effect on brand loyalty and switching intention, but it turned out in the mediating effect analysis that perceived value had indirect effect on brand loyalty through brand trust. This indicates that customers in Shanghai, China, care more about brand trust. In other words, Chinese customers may be satisfied when the perceived value is high, but it does not necessarily lead to brand loyalty. It was also proved that brand trust had positive effect on brand

loyalty, which indicates that Chinese customers are more interested in the brand trust of smart phones than customer satisfaction.

Third, customer satisfaction had direct effect on brand trust, but it also turned out that it had no effect on brand loyalty and switching intention. In the mediating effect analysis, it turned out that customer satisfaction had indirect effect on brand loyalty through brand trust. Thus, even if the level of customer satisfaction is high after customers purchase a certain smart phone, it does not affect brand loyalty and switching intention at all while customer satisfaction has positive effect on brand trust. In addition, the mediating effect analysis shows that while customer satisfaction has no effect on brand loyalty, it has indirect effect on brand loyalty through brand trust, which indicates that customers in Shanghai care much about brand trust.

Fourth, it turned out that brand trust had direct effect on brand loyalty and switching intention. In the mediating effect analysis, brand trust had indirect effect on switching intention through brand loyalty. This indicates that brand trust among customers in Shanghai has positive effect on brand loyalty, and that as brand trust is high, the level of switching intention is likely to be low.

Fifth, brand loyalty had direct effect on switching intention, which indicates that when the level of brand loyalty is high among smart phone customers in Shanghai, the level of switching intention is low accordingly.

Sixth, in the entire model of smart phone customers, perceived value had direct effect on brand trust, and it also had mediating effect through customer satisfaction. Thus, its function as a partial mediating model is also evident. Since perceived value has no direct effect on brand loyalty, the mediating effect through brand trust can be explained with the function as a complete mediating model. In addition, since customer satisfaction has no direct effect on brand loyalty, the mediating effect through brand trust can be explained with the function as a complete mediating model.

Finally, brand types of Galaxy and Xiaomi were used as variables in each adopted channel of the entire model, and the moderating effect in each adopted channel was analyzed. As a result, although there was no difference in the entire channel, the two groups, Galaxy and Xiaomi, were separated to verify the difference perceived by customers, and the causal link to each channel model was analyzed. As a result, the behavior process of Galaxy customers was different from that of Xiaomi customers, and thus it should be noted that the moderating effect might not be measured.

According to the result of analyzing the two groups, as for the behavior process of Chinese customers of Galaxy, perceived value had direct effect on customer satisfaction and switching intention and also affected brand trust through customer satisfaction. In addition, customer satisfaction affected brand loyalty through brand trust. This result shows that as for Galaxy users, the factors that affect switching intention are not formed in a certain process but perceived value affects switching intention directly. As a result, the higher perceived value, the higher level of switching intention. As for high-price smart phones of Galaxy, it is expected that if users of a smart phone of high perceived value find the actual value not satisfactory, they may decide to switch.

As for Chinese customers using Xiaomi products, perceived value had direct effect on customer satisfaction and brand trust, but perceived value had no mediating effect on brand trust and brand loyalty through customer satisfaction. This result indicates that in the case of Xiaomi that maintains its strategy of distributing low-price products, perceived value does not affect switching intention directly but it affects switching intention through brand trust and brand loyalty. Thus, continued process management is necessary.

5.2. Significance

First, as interests in smart phones among Chinese customers increase and the demands for smart phones are increasing accordingly, smart phone manufacturers advancing into the Chinese market need to establish marketing strategies in consideration of perceived

value in order to increase their market shares. Specifically, it is necessary to focus on perceived value among Chinese customers and to compare the cost that Chinese customers would pay to buy a product and the corresponding value that Chinese smart phone manufacturers and Korean manufacturers can offer. Providing a high level of value in requital of payment of reasonable prices will lead to customer satisfaction, establish a trustworthy relation with Chinese customers, and promote continued brand loyalty among Chinese customers. In addition, customers who are considering to switch to the Chinese smart phones may reconsider it and be attracted to the Korean product.

Second, smart phone suppliers conducting business in China need to examine the causal link from perceived value to customer satisfaction, brand trust, loyalty, and switching intention. In particular, companies such as Apple and Lenovo need to understand the purchase behavior patterns of Galaxy and Xiaomi. For example, the continued sales decrease of Galaxy in China may be related to marketing channels and human resource changes, but the most important aspect is that Chinese customers are interested in low-price, high-performance smart phones more than before, and as they prefer their domestic products, it may be difficult for foreign companies to compete with Chinese smart phone companies in the Chinese market.

Third, the process of Galaxy customer behavior showed the causal link of perceived value → customer satisfaction → brand trust → brand loyalty. The high perceived value, the lower level of switching intention. Thus, Samsung needs to attract Chinese smart phone customers with high-price premium strategies. It is thought that such strategies will change minds of customers who prefer their domestic goods. Even though Xiaomi maintains the strategy to distribute low/middle priced products, their general quality of product parts including hardware has been greatly improved. For this reason, the market share of Galaxy has continued decreasing gradually in 2015.

Fourth, the process of Xiaomi customer behavior shows a causal link of perceived value → brand trust → brand loyalty → switching intention. Xiaomi needs to increase the value of its products to secure customer trust in the brand. As they improve brand loyalty, customers who are considering to leave Xiaomi may change their mind, and thus Xiaomi needs to strategically utilize this situation and Chinese customers' preference of domestic goods.

Finally, if smart phone suppliers in the Chinese market desire basic materials for the establishment of marketing strategies differentiated from those of competitors, the findings of this study can be utilized and helpful for such strategies.

5.3. Limitations and Directions for the Future Study

First, this study includes a survey conducted among Galaxy and Xiaomi smart phone users living in Shanghai, in corporate management positions, and in their 20s or 30s. Thus, this study has limitation in generalizing the findings. The future study needs to expand the survey range to other major cities such as Beijing and Hong Kong and to include more various social classes.

Second, this study compares Galaxy and Xiaomi only. Since there is no investigation on other brands such as Apple I-phone and Huawei, this is another limitation of this study. Including more companies is a necessary step to expand this study to the range of the entire Chinese smart phone market.

Third, the way of online survey was adopted. Although the entrusted Chinese internet-based survey agency is reliable, the general process of survey was not under the control of the researcher, and thus the researcher needs to conduct a survey through a survey researcher in order to secure the reliability of respondents to a greater degree.

Fourth, as for perceived value, only monumental value was taken into account while time value, social value, etc. were not considered. The future study needs to include variables of time value and social value when it comes to perceived value.

References

- [1] <http://www.miit.gov.cn/>.
- [2] TrendForce, <http://www.TrendForce.com>, (2015) July.
- [3] Gartner, <http://www.gartner.com/newsroom/id/2996817> 2015, (2015) March 3.
- [4] J. M. Lattin and L. McAlister, "Using a Variet-seeking Model to Identify Substitute of Complementary Relationships Among Competing Products," *Journal of Marketing Research*, (1985) August 22, pp. 330-339
- [5] R. M. Morgan and S. D. Hunt "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, vol. 58, no. 3, (1994), pp. 20-38.
- [6] S. Fournier, "Consumers and Their Brands: Developing Relationship Theory in Consumer Research," *Journal of Consumer Research*, vol. 24, no. 4, (1998), pp. 343-353.
- [7] V. A. Zeithaml, "Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence," *Journal of Marketing*, vol. 52, no. 3, (1988), pp. 2-22.
- [8] R. Blackwell, P. Miniard and J. Engel, "Consumer Behaviour", (9th eds), New Youk: Harcourt, (2001).
- [9] R. N. Bolton and J. H. Drew "A Longitudinal Analysis of the Impact of Service Changes on Customer Attitude," *Journal of Marketing Research*, vol. 55, no. 1, (1991), pp. 1-9.
- [10] R. N. Bolton and K. N. Lemon, "A Dynamic Model of Customer's Usage of Satisfaction," *Journal of Marketing Research*, vol. 36, no. 2, (1999), pp. 171-186.
- [11] T. Duman and A. S. Mattila, "The Role of Affective Factors on Perceived Cruise Vacation Value," *Tourism Management*, vol. 26, no. 3, (2005), pp. 311-323.
- [12] M. D. Johnson, A. Hermann and F. Huber, "The Evolution of Loyalty Intentions," *Journal of Marketing Research*, vol. 70, no. 2, (2006), pp. 122-132.
- [13] R. L. Oliver, "Cognitive, Affective and Affective Base of Satisfaction Response," *Journal of Consumer Research*, vol. 20, no. 3, (1993), pp. 418-430.
- [14] R. L. Oliver, "Measurement and Evaluation of Satisfaction Processes in Retail Settings," *Journal of Reaaling*, (Fall), vol. 57, (1981), pp. 25-48.
- [15] R. L. Oliver, "Whence Consumer Loyalty?," *Journal of Marketing*, (special issue), vol. 63, (1999), pp. 33-44.
- [16] S. M. Keaveney, "Customer Switching Behavior in Service Industries: An Exploratory Study," *Journal of Marketing*, vol. 59, no. 2, (1995) April, pp.71-82.
- [17] F. F. Reichheld and W. E. Sasser, "Zero defection: quality comes to service," *Harvard Business Review*, vol. 68, no. 5, (1990), pp. 105-111.
- [18] R. H. Fazio, "Multiple processes by which attitudes guide behavior: The MODE model as an integrative framework," *Advances in experimental social psychology*, vol. 23, (1990), pp. 75-109.
- [19] P. Huifeng and M. S. Kang, "A Study on the Effects of the Perceived Value about Smart Phone's Customer Behavior: Focusing on Switching Intention," *Advanced Science and Technology Letters*, (Business 2016), vol. 126, (2016), pp. 28-32.
- [20] J. L. Fleiss, "Statistical methods for rates and proportions", 2nd ed, New York, etc : John Wiley & Sons, (1981).
- [21] J. C. Nunnally, "Psychometric Theory", New York McGraw-Hill, (1978).
- [22] J. F. Hair Jr., W. C. Black, B. J. Babin, R. E. Anderson and R. L. Tatharn, "Multivariate Data Analysis," 6th ed., Prentice-Hall International, (2006).

Authors



Pan Huifeng, Ph.D, currently works as a professor in Beijing Institute of Graphic Communication; Post-Doctoral Research Station in Business Administration of TsingHua University, Beijing, China. His research interests are culture marketing, consumer behavior, IT services and communication services.



Man-su Kang, Ph.D, currently works as a senior researcher in the Korea Federation of Credit Guarantee Foundations, Republic of Korea. His research interests are related broadly to big-data analysis from small data analysis, and Financial Service Marketing.

