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A Study on Revitalization of Revenue through Difference of Consumer Perception of Characteristics of Mobile Social Commerce*

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Abstract

Purpose - This study aimed to verify some cues for invigorating sales of mobile social commerce companies by analyzing differences in consumers' perceptions on characteristics of mobile commerce, after applying the step 1 of strategy deduction approach using the differences in their perceptions.

Research design, data, and methodology - Efficient questionnaires of a total of 365 respondents who answered the questions about the importance of and the satisfaction with 14 characteristics of social commerce were returned, and then, paired-samples t-test and IPA by all respondents, gender, age and incomes were conducted.

Results - The analysis showed that a maintenance/reinforcement strategies planned by companies are required for some factors including discount rate at the first quadrant, while active improvement strategies are required for others including reliability and interactivity at the second quadrant.

Conclusions - The findings show that different marketing strategies should be established for each consumer who often uses mobile social commerce, and that more effective and efficient performance of mobile social commerce may be acquired by establishing and operating active improvement strategies.

Keywords: Social Commerce, Characteristics of Mobile Social Commerce, Difference in Consumers' Perceptions, Invigoration of Sales, IPA.

JEL Classifications: D30, M10, M11, M12, M31.

1. Introduction

Today, shopping environments have shifted to online systems, along the development of internet; especially the growth of social network services and the spread of smart-phone and tablet PC contribute to the creation of various business models. SNS has continuously promoted participation and communication of users, leading to changes of e-commerce markets (Leitner & Grechenig, 2007). The social commerce, one of new business models, which is a

new form of shopping-mall that has never existed functions as a new medium connected with SNS, beyond mere 'shopping' and has newly modified e-business and e-commerce markets (Han, Song, & Lim, 2011). According to 'Survey on Utilization Status of Internet, 2015' of the Korea Internet & Security Agency (KISA), while shopping through PC has been continuously decreased over the last three years, mobile shopping has been increased, indicating that the entire online commerce markets are reorganized around the mobile (KISA, 2015).

As the number of mobile users has been increased, the trend of consumption is drastically changed, as promptness and convenience of work processes are emphasized and various services of online commerce and information searches are supported, due to the characteristic of mobile that is free from space and time. In particular, the use ratio of smart-phones among mobile internet devices is highest (95.5%) (KISA, 2013), and smart-phone-based mobile shopping mode is rapidly spread as a new shopping culture and related consumption markets are dramatically expanded,

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as the number of users of smart-phone is surged. Such a phenomenon can be found to be concentrated on social commerce: the size of social commerce started from 1.2 million, 2012 through 5.5 trillion, and 2014 to more than 8 trillion, 2015. Such a notable growth means that social commerce has grown by 800 times over 5 years. More surprisingly, more than 72% of social commerce has been created through the mobile (Money Today, 2015).

As social commerce markets with some kinds of strength such as exceptional discount, rocket delivery, differentiated curation and optimization of mobile transaction have been surged, they emerge as new engines for online market (Ahn, 2015). However, some indicate that dramatically expanding mobile social commerce markets have unstable profit structures, relative to their sizes (Ma, Kim, & Ahn, 2016), and it is difficult to improve the structures, due to excessive cutthroat competitions without understanding consumers' needs.

As mobile shopping has been recently highlighted as an important distribution channel, some studies on social commerce around the mobile (Beak & Han, 2015; Jin & Park, 2013, Ma et al., 2016) and others on characteristics of social commerce (Hong & Lee, 2015; Jo, 2016; Oh, 2014; Park & Jeon, 2015) are published, but there are lack of various clues.

Therefore, this study attempted to verify some cues for invigorating sales of mobile social commerce companies by analyzing differences in consumers' perceptions on characteristics of mobile commerce, after applying the step 1 of strategy deduction approach using the differences in their perceptions, which was proposed by Yang and Yang (2017). To this end, perceived importance of and the satisfaction with 14 characteristics of social commerce were measured. In addition, this study tried to draw factors to be maintained and reinforced and others to be improved through IPA (Importance Performance Analysis), after organizing groups by gender, age and income.

The findings are expected to provide various clues for mobile social commerce companies to effectively apply marketing strategies which are conducted to invigorate their sales.

2. Theoretical Background

2.1. Mobile Social Commerce

In the past, all sectors increasingly depend on the mobile: today, the 'mobile only' is announced, though the 'mobile first' was declared in the past (Money Today, 2015). In other words, typical shopping mode so far is to directly visit stores and select and purchase necessary items, while the mobile commerce means a financially valuable transaction through mobile's wireless communication network

(Müller-Veerse, 1999). Siau, Er-Peng, and Shen (2001) defined it as a new form of e-commerce created through mobile devices, along with the development of wireless technology. Characteristics of mobile commerce allow ubiquitous transaction wherever wireless internet is available. New businesses using such characteristics increasingly go into mobile commerce markets.

The social commerce means an e-commerce using social media, in order to promote social interactivity and enhance online shopping experience (Marsden, 2010). Kim and Park (2013) defined it as a form of online business combining social media and e-commerce. In Korea, the social commerce formally began with Wipon, February, 2010, and the mobile social commerce was launched around the middle of 2011. More than 72% of social commerce transactions occur on mobiles (High Investment Stock Report, 2014), suggesting that mobile shopping is a very convenient shopping mode for busy modern persons, but also immediacy and mobility of mobiles satisfy needs of consumers, and that the size of mobile shopping is sharply grown, due to increased distribution of smart-phones and development of technologies, such as security of payment and improvement of convenience (Korea DMC Report, 2016). According to Korea Online Shopping Association, the size of mobile commerce markets has grown from 1.7 trillion, 2012 through 5.9 trillion, 2013 to 14 trillion, 2014, which is 237% higher than that, 2013. The size of mobile commerce markets that experience such a sharp growth is estimated to rise above 100 trillion, 2020 (High Investment Stock Report, 2014). Therefore, the size of mobile social commerce markets is also expected to expand rapidly.

2.2. Characteristics of Mobile Social Commerce

The characteristics of mobile social commerce, a factor that affects consumers' perceptions on the whole efficiency of social commerce includes functional attributes which can be objectively compared with those of other shopping malls and psychological ones related with subjective perceptions (Ma et al., 2016). A preliminary study by Oh (2014) on characteristics of mobile social commerce divides the characteristics that have effects on intentions to purchase social commerce into awareness of site, awareness of service provider, economical efficiency, interactivity and provision of information. On the other hand, Kim and Cho (2013) suggested convenience of transaction, safety of transaction and responsiveness as such characteristics. In studying characteristics of social commerce web, Park and Jeon (2013) noted web interface, quality of information, complexity in usage procedures of coupons, while Wang and Kwon (2012) regarded relationship, convenience of use, usefulness of information, lower price and reputation of site as them. This study used 14 characteristics of mobile social commerce proposed by Choi (2017). The characteristics adopted by this study are shown in <Table 1>

<Table 1> Factors of mobile social commerce

No	Factor
1	Instant connectivity
2	LBS(Location-Based Service)
3	Product discount rate
4	Site awareness
5	Provider awareness
6	Product Safety
7	Entertainment element(fun, pleasure, etc.)
8	Reliability
9	Interactivity
10	Lower price
11	use of coupons
12	product information
13	Brand awareness
14	Convenience after purchase(exchange, refund, etc.)

3. Empirical Analysis

3.1. Data collection

Data for the analysis were collected for 20 days after July, 1, 2017, by mailing questionnaires to smart-phone users and then retrieving them, so a total of 365 copies of efficient questionnaires were acquired and used for the analysis. An examination of demographic characteristics to be used in the analysis showed that the number of male respondents(n=152, 41.6%) was somewhat higher than that of female respondents (n=213, 38.9%), for the gender; each number of respondents under the age of 29 and over the age of 39 was 228(62.1%) and 137(38.9%), respectively, for the age; each number of respondents with monthly income less than 3 million won and more than 3million won was 163(41.2%) and 242(58.8%), respectively for the income.

Consumers were asked to evaluate their perceptions on characteristics of social commerce on the 5-point scale after bringing up the image of social commerce they have used, based on Choi (2017), as shown in <Table 1>: 1='very important' and 5='never important', for the importance; 1='very satisfactory' and 5='never satisfactory', for the satisfaction. Each item responded by them was used in the analysis, by reversely coding it.

3.2. Analysis Methodology

Yang and Yang (2017) proposed the strategy deduction approach using IPA(Important- Performance Analysis), the step 1 and quoting SWOT/AHP analysis, the step 2, both of which are the strategy deduction method using differences in consumers' perceptions and can be easily applied to small businesses or organizations. This study attempted to verify

clues for invigorating sales of mobile social commerce companies by using IPA at the step 1 such as various study(e.g., Jung, Ha, & Yoon, 2009; Ko & Park, 2015; Yang, Cho, & Kim, 2017; Yang, Kim, & Kim, 2016). In addition, it conducted a further analysis by dividing groups of consumers depending on demographic characteristics, such as gender, age and income, in order to deduce various clues around target customers.

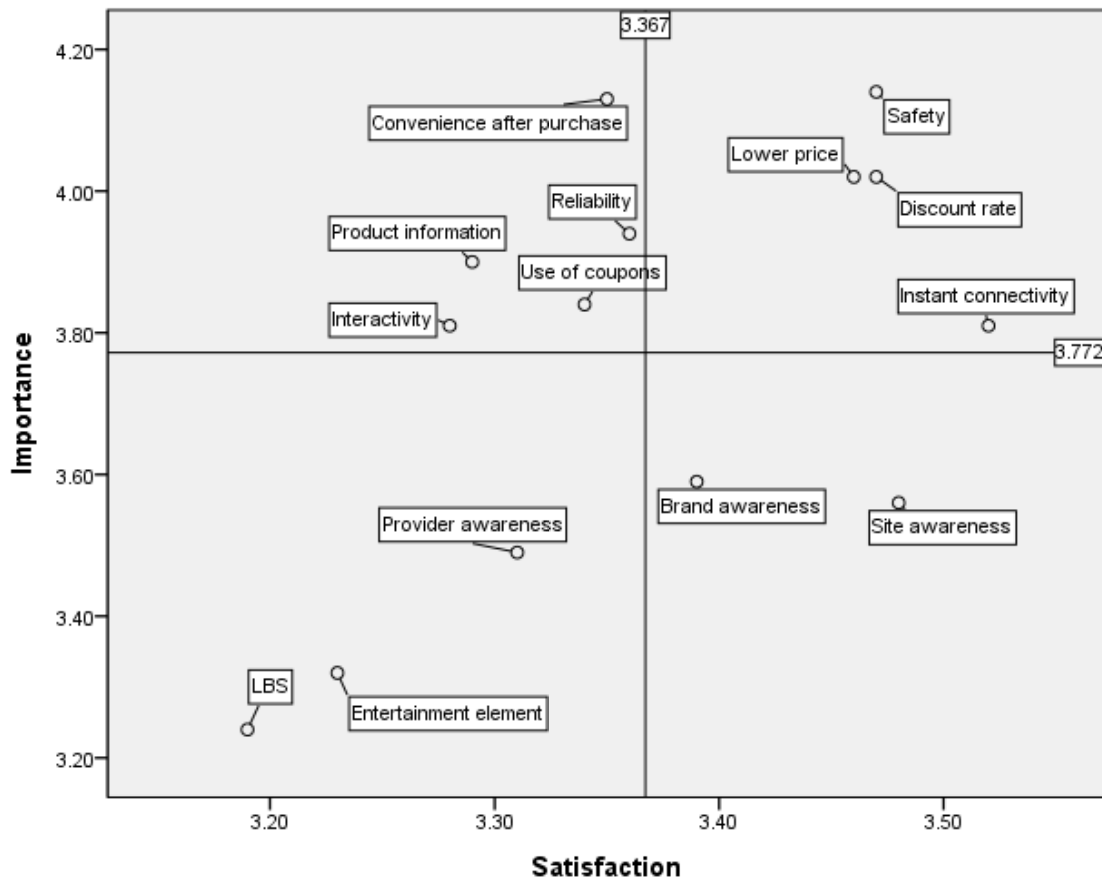
3.3. Results of paired-sample t-test and IPA (Important-Performance Analysis)

The results of paired-samples t-test of each item show that there are statistically significant difference between the importance of and the satisfaction with all demographic characteristics, except for LBS(Location-Based Service), awareness of site, entertainments factors(enjoyment and fun).

<Table 2> Results of Paired Sample t-test for social commerce characteristics (n=365)

Variables	Compare between sub items	Mean	S.D.	Mean Difference	t-value	p-value
Instant connectivity	importance	3.81	0.94	0.29	5.943	0.000
	satisfaction	3.52	0.88			
LBS	importance	3.23	0.99	0.04	1.039	0.299
	satisfaction	3.18	0.85			
Discount rate	importance	4.02	0.95	0.55	10.937	0.000
	satisfaction	3.47	0.80			
Site awareness	importance	3.55	1.03	0.08	1.584	0.114
	satisfaction	3.47	0.83			
Provider awareness	importance	3.49	0.96	0.18	3.595	0.000
	satisfaction	3.30	0.77			
Safety	importance	4.13	0.94	0.66	12.561	0.000
	satisfaction	3.47	0.85			
Entertainment element	importance	3.31	1.02	0.08	1.683	0.093
	satisfaction	3.23	0.83			
Reliability	importance	3.93	0.95	0.57	10.999	0.000
	satisfaction	3.35	0.83			
Interactivity	importance	3.80	0.99	0.53	9.824	0.000
	satisfaction	3.27	0.89			
Lower price	importance	4.01	0.95	0.55	10.595	0.000
	satisfaction	3.46	0.82			
Coupons	importance	3.84	0.96	0.50	8.650	0.000
	satisfaction	3.33	0.91			
Product information	importance	3.89	0.96	0.60	10.939	0.000
	satisfaction	3.29	0.85			
Brand awareness	importance	3.59	1.03	0.20	3.709	0.000
	satisfaction	3.39	0.81			
Convenience	importance	4.12	0.96	0.78	12.697	0.000
	satisfaction	3.34	0.93			

IPA results for mobile social commerce characteristics are presented in <Figure 1>.



<Figure 1> IPA Results of mobile social commerce characteristics for all respondents

From the results of IPA in <Figure 1>, it can be determined that the maintenance and reinforcement strategy is required for the first quadrant where users' characteristics are considered to be competitive for mobile social commerce, while urgent improvement is required for the second quadrant (Park, Kim, & Yang, 2015; Yang, Kwon, & Kim., 2014), and that selective improvement is required for the third quadrant with lower importance and satisfaction, while gradual reduction of investment should be considered for the fourth quadrant with lower importance but higher satisfaction.

An analysis of all respondents shows that 'instant connectivity', 'product discount rate', 'safety of transaction' and 'lower price' at the first quadrant are very important and satisfactory. Therefore, it is found to be necessary to secure competitiveness through continuous investment in such factors. Meanwhile, 'reliability', 'interactivity (comments and reviews)', 'usage procedures of coupons', 'product information' and 'convenience after purchase' (exchange, refund, etc.) are very important but their satisfaction is lower than average, so immediate improvement or maintenance and reinforcement are required for them. For some factors with

lower importance and satisfaction, such as 'LBS (Location-Based Service)', 'awareness of service provider', and 'entertainment factors (enjoyment and fun)', improvement strategies adjusted for users' characteristics may be necessary, while for others with lower importance and higher satisfaction, such as 'awareness of site' and 'awareness of brand' can be determined as being not priorities.

On the other hand, the results of statistical analysis using the paired-samples t-test and those of IPA by gender, age and income are not suggested for the conciseness of the study, and the factors at each quadrant are summarized in following tables.

At first, the results of paired-samples t-test for a comparison by gender show that there no statistically significant differences between the importance of and satisfaction with some factors, such as 'awareness of site', 'entertainment factors (enjoyment and fun)' and 'awareness of brand', for males; 'LBS (Location-Based Service)', 'awareness of site' and 'entertainment factors (enjoyment and fun)' for females, suggesting that males' perceptions on mobile social commerce are different from those of females, in comparison of other factors which have statistically significant

differences. The results of IPA by gender show that the satisfaction with 'product information' is lower than the importance of it, for males, while the satisfaction with 'product information', 'reliability', 'interactivity (comments and reviews)' and 'convenience after purchase (exchange, refund, etc.)' is lower than the importance of them, for females, so they must be improved.

The results of paired-samples t-test for a comparison by age show that there are no statistically significant differences between the importance of and the satisfaction with some factors, such as 'LBS(Location-Based Service)', 'awareness of site', 'awareness of service providers' and 'entertainment factors (enjoyment and fun)', for respondents under 29; only 'entertainment factors (enjoyment and fun)' for those over 30. The results of IPA by age exhibit that the satisfaction with

some factors including 'reliability', 'interactivity (comments and reviews)', 'product information' and 'convenience after purchase (exchange, refund, etc.)' is lower than the importance of them, for those under 30, while the satisfaction with 'reliability' and 'product information' is lower than the importance of them, for those over 30, so they must be improved.

Finally, the results of paired-samples t-test for a comparison of characteristics of mobile social commerce, by income show that there are no statistically significant differences between the importance of and the satisfaction with some factors, such as 'belief that I can buy a good product', 'time taken to buy' and 'online communication with sellers', in both groups with income more than 3 million won and less than 3 million won.

<Table 3> IPA results of gender difference

Division	Male	Female
Quadrant 1	Instant connectivity Product discount rate Product Safety Reliability Lower price Convenience after purchase	Instant connectivity Product discount rate Product Safety Lower price use of coupons
Quadrant 2	product information	Reliability Interactivity product information Convenience after purchase
Quadrant 3	LBS(Location-Based Service) Provider awareness Entertainment element Interactivity use of coupons	LBS(Location-Based Service) Provider awareness Entertainment element
Quadrant 4	Site awareness Brand awareness	Site awareness Brand awareness

<Table 4> IPA results of age

Division	Under 30	30 and older
Quadrant 1	Instant connectivity Product discount rate Product Safety Lower price use of coupons	Instant connectivity Product discount rate Product Safety Lower price Convenience after purchase
Quadrant 2	Reliability Interactivity product information Convenience after purchase	Reliability product information
Quadrant 3	LBS(Location-Based Service) Provider awareness Entertainment element	LBS(Location-Based Service) Provider awareness Entertainment element Interactivity use of coupons
Quadrant 4	Site awareness Brand awareness	Site awareness Brand awareness

<Table 5> IPA results of monthly income

Division	Less than 3 million	3 million and more
Quadrant 1	Instant connectivity Product discount rate Product Safety Lower price	Instant connectivity Product discount rate Product Safety Lower price Convenience after purchase
Quadrant 2	Reliability Interactivity use of coupons product information Convenience after purchase	Reliability Interactivity use of coupons product information
Quadrant 3	LBS(Location-Based Service) Provider awareness Entertainment element	LBS(Location-Based Service) Provider awareness Entertainment element
Quadrant 4	Site awareness Brand awareness	Site awareness Brand awareness

The results of IPA by income exhibit that the satisfaction with 'reliability', 'interactivity (comments and reviews)', 'usage procedures of coupons' and 'product information' is commonly lower than the importance of them, in both groups, while the satisfaction with 'convenience after purchase (exchange, refund, etc.)' is lower than the importance it, only in the group with income less than 3 million won, so it must be improved.

4. Conclusion & Discussions

This study attempted to verify some cues for invigorating sales of mobile social commerce companies by analyzing differences in consumers' perceptions on characteristics of mobile commerce, after applying the step 1 of strategy deduction approach using the differences in their perceptions, which was proposed by Yang and Yang (2017).

The analysis of all respondents shows that the maintenance and reinforcement strategy continuous investment is required for 'instant connectivity', 'product discount rate', 'safety of transaction' and 'lower price', while the importance of 'reliability', 'interactivity (comments and reviews)', 'usage procedures of coupons', 'product information' and 'convenience after purchase (exchange, refund, etc.)' is very important but the satisfaction with them is lower than average, so immediate improvement or maintenance and reinforcement are found to be required for them. In other words, 'instant connectivity', 'product discount rate', 'safety of transaction' and 'lower price' of mobile social commerce are consistent with the expectation-performance of Oliver (1980), so the continuous maintenance and reinforcement strategy is likely to prevent customer attrition. However, 'reliability', 'interactivity (comments and reviews)', 'usage procedures of coupons', 'product information' and 'convenience after purchase (exchange, refund, etc.)' have been identified so

far as unsatisfactory factors, so companies should active complement such factors.

The analysis by group shows that males' perceptions on characteristics of mobile social commerce and users are different from those of females, so different marketing strategies adjusted for each gender of users who often use mobile social commerce should be established. In particular, the satisfaction with 'product information' is lower than the importance of it, for males, while the satisfaction with 'product information', 'reliability', 'interactivity (comments and reviews)' and 'convenience after purchase (exchange, refund, etc.)' is lower than the importance of them, for females, so they must be improved. The comparison by age exhibits that the satisfaction with some factors including 'reliability', 'interactivity (comments and reviews)', 'product information' and 'convenience after purchase (exchange, refund, etc.)' is lower than the importance of them, for those under 30, while the satisfaction with 'reliability' and 'product information' is lower than the importance of them, for those over 30, so they must be improved. Finally, the comparison by income demonstrates that the satisfaction with 'reliability', 'interactivity (comments and reviews)', 'usage procedures of coupons' and 'product information' is commonly lower than the importance of them, in both groups, while the satisfaction with 'convenience after purchase (exchange, refund, etc.)' is lower than the importance it, only in the group with income less than 3 million won, so it must be improved.

Although this study suggest various implications by drawing characteristics of mobile social commerce and users, through analyses by all respondents, gender, age and income, it has some limitations, so they need to be complemented in future studies. First, the step 1 of findings of Yang and Yang(2017), IPA was quoted to draw strategies. Hence, another procedure of analysis through the step 3, the causation model and the approach quoting the step 2, SWOT/AHP should be included in future studies.

Second, types of mobile social commerce can be divided into group buying, social link, social web and off-line association, according to mode of usage (Yu & Yun, 2011). This study asked users to measure the importance and satisfaction by factors, by allowing them to associate social commerce sites which they had often visited. This is likely to result in bias of preference or involvement, which should be properly controlled in future studies. Finally, in spite of the comparison by factors of characteristics of social commerce and users, attributes could not be clustered, but also the causation between such factors and behavioral intentions such as usage and stop intention could not be verified, as is indicated in the first limitation. Thus, it may be necessary to categorize attributes of factors derived from further studies and verify effects of the attributes on consumers' attitudes and behaviors.

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