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Gap: A Study on the Influence of New Measurement Method on Consumers' Decision Making

Hoe-Chang Yang*, Hee-Young Cho**, Young-Ei Kim***

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Abstract

Purpose - The study verified the effects of consumers' knowledge perception upon word-of-mouth intention and purchase intention of consumers who were exposed to a lot of information, and examined consumer's behavior from multi-dimensional points of view.

Research design, data, and methodology - The study conducted the test of difference between consumer's cognition on importance and satisfaction of HMR product by gap of HMR (Home Meal Replacement) product for IPA analysis. The consumer's reliability and words-of-mouth were measured by the questionnaire method with 4 questions according to Likert 7-point scale. Conversion into z-score removed the difference of variables.

Results - The causal relation model for importance, satisfaction and gap, not relying upon multi-dimensional scaling and others, could construct causal relation model to give implications. Difference (d) of the products could lessen consumer's reliability to increase consumer's knowledge perception, word-of-mouth intention, knowledge perception, and purchase intention. Therefore, enterprises should make an effort to lessen consumers' complaint for the products and to elevate consumers' reliability. Enterprises also try to give consumers exact information and to promote purchase intention.

Conclusions - Difference (d) of consumers' complaint and/or disappointment decreased consumers' reliability to increase knowledge perception. Enterprises should supply consumers with products according to their requirements to minimize the gap and to give them proper information.

Keywords: Measuring Gap, Trust, Knowledge Perception, Word-of-mouth Intention, Purchase Intention.

JEL Classifications: C80, C90, M10, M12, M30.

1. Introduction

A lot of differentiated products have been supplied through the various kinds of distribution channels by online and offline in modern consumption environment that consumers may have difficulty in finding out factors having influence upon decision-making of purchase. Consumers are asked to spend time and to make efforts to do reasonable decision-making, and effective strategy is needed from the

point of view of enterprises. Various market environment expanded consumers' choice, and the allowance for enterprises join market was neglected. Therefore, the variety was replaced by complexity, and consumers and enterprises have difficulty in selection. (Schwartz, 2005).

Consumers may have difficulty at decision-making because of the difficulty in decision making and selection, and no selection of difficulty of selection is originated from indecision to be mental problem in modern society. In fact, consumers may be difficult to do reasonable decision-making at rush of the information. Consumers may be not easy to make a decision of brands and products so that enterprises shall produce marketing expenses at various areas. When consumers withhold decision and select another product and/or enterprises despite of marketing activities, enterprises are forced to lose selling opportunity (Ha & Lee, 2011). So, consumers inspect factors having influence upon decision-making under current situation to give enterprises various

* First Author, Assistant Professor, Dept. of Distribution Management, Jangan University, Hwaseong, Korea.
E-mail: pricezzang@jangan.ac.kr

** Second Author, Adjunct Professor, Dept. of Distribution Management, Jangan University, Hwaseong, Korea.
E-mail: imarketinghy@paran.com

*** Corresponding Author, Professor, Dept. of Business Administration, Seoul Digital University, Seoul, Korea.
Tel: +82-31-299-3133, E-mail: kimyei@naver.com

kinds of conditions.

This study inspected expectation outcome and perceived outcome of IPA(Importance-Performance Analysis) (Grönroos, 1984; Parasuraman et al., 1985) and SERVQUAL that thought much of existing causal relations having influence upon consumers' decision making, and examined causal relation by using gap (hereinafter called 'd') to minimize 'consumer's perceived area. This study inspected effects upon word-of-mouth effect and purchase intention by using consumers' reliability and knowledge perception of previous studies.

The study tested new measurement method that could lessen bias made by social desire and individual's experience and values. This study also investigated effects upon the consumers' decision-making to establish effective marketing strategy. It verified effects of the consumers' knowledge perception upon word-of-mouth intention and purchase intention of the consumers who were exposed to a lot of information, and examined consumer's behavior in the process of multi-dimensional inclination to interpret consumers from multi-dimensional points of view.

2. Theoretical Background

Men make decision by two approaches: cost/benefit approach and perceptual approach. (Well et al., 1995). Cost/benefit approach is based on exactness of decision making and cognitive efforts that could accomplish strategy. The cost/benefit approach could compromise decision-making desire and minimum cognitive effort to make a decision exactly. In other words, the one who makes a decision has different exactness and effort depending upon strategy to have a different strategy depending upon decision making environment and to select different strategy depending upon decision making object. (Howard & Madrigal, 1990). A Perceptual approach may vary depending upon the contents of decision-making to decide based on perceptual principle of men. As perception may continue without making correction of errors of perception, prejudice made by perceptual factors may have influence upon decision-making to keep continuity (Well et al., 1995). So, estimation by perceptual factors of consumers' decision making of purchase may reflect various kinds of prejudices. Removal of consumer's attention bias, decision bias and attribution bias and other psychological bias is likely to have influence upon consumer's decision-making.

Consumers like to evaluate some attributes only of products and/or services that they think much of. Multidimensional scaling (MDS) may be used to investigate consumers' selective perception to visualize simple structure of complicated relation at multidimensional space that is perceptual mapping. However, multidimensional scaling can be used by complicated analysis process that analysis and/or interpretation professionals can do. In other words, common level of researchers and/or non-professionals of

enterprises are difficult to analyze and/or understand.

Indirect methods were used to investigate sensitive subjects (Yang, 2014) and Yang et al. (2016) This study made use of factor analysis on consumers' decision making. Self-serving bias test was difficult to get by direct questionnaire, and after testing of organizational citizen behavior of oneself and/or boss (and fellow workers), difference defined self-serving bias to get results by casual relation analysis (Yang, 2014; Yang et al., 2016). The process could compare expected outcome with perceived outcome to lessen 'consumer's perceived area' as many as possible. This study made use of gap between importance and satisfaction of IPA to construct causal relation model (Park et al., 2016).

In this study, consumers' knowledge played role at the rush of consumers' reliability and information that consumers made decision of purchase. Reliability was accepted by consumers to be subjective, while cognition on the knowledge was done by acquisition of information to be objective. Consumers may cognize products to have different influence upon reliability and cognition on their knowledge, and the factors are likely to have different influence upon transfer of selection to others and purchase intention.

Consumer's reliability is thought to be one of the significant variables of successful enterprises and organizations (McAllister, 1995). The reliability can lessen transaction cost to increase flexibility and efficiency and to make design of future marketing strategy and plans exactly and to give enterprises more profits (Chen & Dhillon, 2003). The reliability shall be the most effective to react between enterprises and consumers under difficult situation (Suh & Lee, 2011), and to give belief in mutual reaction of transaction relations under uncertain situation and to be given much attention (Gefen, 2000). This study was based on subjectiveness of the reliability according to definitions of many researchers (Anderson & Narus, 1990; Moorman et al., 1993). The reliability was defined to believe in the other party with firm idea (Moorman et al., 1993) to rely upon affirmative result and not to do unexpected actions that may create negative results. (Anderson & Narus, 1990). The reliability relies upon the other party's truth (Morgan & Hunt, 1994) to believe in individuals, products, capability of enterprise, truth and characteristics (Kotler & Keller, 2012; Salo & Karjaluoto, 2007). Information on the product can teach consumers to let them select correct product. For instance, product packing and advertising may give consumers ingredient and properties of the product to communicate with consumers. In modern intellectual society, various kinds of media can give a lot of information to give advantage and to play good role.

The result is much likely to make consumers confused. For instance, consumers think much of negative nutrition information than affirmative nutrition information (Russo et al., 1986), and negative nutrition information may make consumers cognize unfavorably to have various kinds of

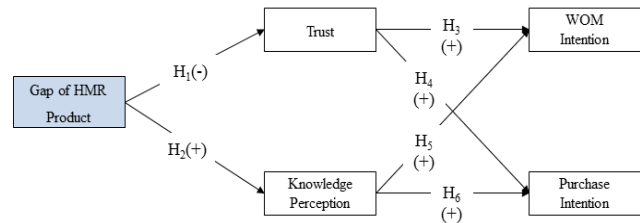
influence. (Burton et al., 1995).

Different cognition on the product and consumers' reliability and knowledge cognition may be much likely to have influence upon words-of-mouth and purchase intention. Consumers think of reliability of words-of-mouth than other marketing activities of which contents are delivered to the other party directly. Public relation is more effective than advertising and marketing outcome that enterprises expect of (Lee et al., 1999). Customers who were dissatisfied had rather different responses such as the change of trademark by negative words-of-mouth (Richins, 1983). In other words, consumers' purchase intention may differ from words-of-mouth giving another person. Purchase intention may be applied to buying behavior of product and/or service in the future from the point of view of behavioral intention to realize consumers' belief and attitude and to be subjective probability (Engle et al., 1995). Purchase intention differs from belief (Dulany, 1968) to have unique characteristics. Purchase intention links men with specific behavior to have relation with future behavior and to connect actual behavior (Fishbein & Ajzen, 1975).

3. Methodologies

3.1. Research Model & Hypotheses

In this study, gap is the difference between importance and satisfaction of the product to be outcome of lack, complaint and disappointment from the point of view of consumers. Different selection of the product may have negative influence upon consumer reliability. Different cognition on importance and satisfaction may have affirmative influence upon information cognition on HMR. Reliability connecting parties can promote transaction by belief to keep and to contribute to regular relations. Enterprises' good relation with customers may create affirmative words-of-mouth (Gremler et al., 2001) and strong relation with the other party can produce more words-of-mouth to have different contents (Brown & Reingen, 1987). Reliability has direct influence upon words-of-mouth, and high reliability can increase purchase intention (Sam & Tahir, 2010). Knowledge on products may have relation with interest to vary depending upon involvement in disclosed information and/or product. In fact, consumers cognize product and/or information in different way and consumers have high response on risks and/or profits. (Chipman et al., 1995). The outcome may have influence upon words-of-mouth and/or purchase intention depending upon consumer's cognition on HMR. Negative difference of the product, words-of-mouth and purchase intention are likely to have influence upon reliability and cognition on the information. This study made models and hypotheses based on theoretical background and precedent studies:



Note) Do not give hypotheses of mediation effect (<math>\langle H_{7,1} \rangle < \langle H_{7,2} \rangle < \langle H_{8,1} \rangle < \langle H_{8,2} \rangle </math>).

<Figure 1> Research Model & Hypotheses

3.2. Data Collection & Methods

In this study, the subject was 178 persons, that is to say, 65 men, 112 women, and 1 person who was absent at testing (Park et al., 2016). The study conducted test of difference between consumer's cognition on importance and satisfaction of HMR product by gap of HMR (Home Meal Replacement) product for IPA analysis. The study measured consumer's reliability and words-of-mouth by four questions of consumer's reliability and another 4 questions of words-of-mouth (Park et al., 2016) according to the study of Castaldo et al. (2010) and Chaudhuri and Holbrook (2001) according to Likert 7-point scale. Conversion into z-score removed the difference of variables.

4. Empirical Analysis

4.1. Reliability & Validity

Confirmatory factor analysis was done to verify validity, and internal consistency test was done by using Cronbach's α coefficient to verify reliability. In this study, importance without cognition on consumer's importance could not verify validity and/or reliability of difference of cognition on HMR product, and 7 questions of importance of HMR product and 5 questions (2 questions of less than 0.5 of standard loading) were used to verify validity and reliability. The finding was: Construct reliability of 0.847-0.896 and AVE of 0.536-0.682 verified validity, and Cronbach's α coefficient of 0.742 0.922 had internal consistency.

<Table 1> Results of Reliability and Validity

Variables	First Item	Final Item	Construct Reliability	AVE	Cronbach's α
Importance of HMR	7	7	0.889	0.536	0.877
Satisfaction of HMR	7	5	0.876	0.588	0.742
Trust	4	4	0.847	0.582	0.909
Knowledge Perception	4	4	0.857	0.607	0.885
WOM Intention	4	4	0.896	0.682	0.922
Purchase Intention	3	3	0.835	0.630	0.899

Note) WOM Intention means Word-of-Mouth Intention.

4.2. Correlation Analysis

Correlation was used to verify direction between variables and causal relation and to verify AVE (<Table 2>). In correlation analysis, gap that importance of HMR product was deducted by satisfaction was used. As expected in first hypothesis, d was found to have negative relation between reliability and words-of-mouth and to have positive relation with purchase intention.

<Table 2> Results of Correlation Analysis (n=178)

	1	2	3	4	5
1. d(Gap)	-				
2. Trust	-.152*	(.582)			
3. Knowledge Perception	.173*	.149*	(.607)		
4. WOM Intention	-.197**	.721**	.057	(.682)	
5. Purchase Intention	.192*	.135	.599**	.101	(.630)
Mean	0.75	4.18	3.28	3.91	2.99
Standard Deviation	0.80	1.15	0.88	1.20	0.98

Note) * p<.05, ** p<.01, AVE marked in ().

4.3. Verification of Hypothesis

After control of gender and age, regression analysis was done to inspect hypotheses of <Figure 1>.

Difference (d) of the product had negative influence upon reliability ($\beta = -.172$, $p < .05$) and had positive influence upon knowledge perception ($\beta = .157$, $p < .05$). Disappointment at the product may decrease consumer's reliability to measure difference (d). Consumers who were disappointed at the product might get more information on purchase. Customers who were disappointed at buying wanted to get more information on repurchase. So, both <Hypothesis 1> and <Hypothesis 2> were adopted.

Reliability was found to have much positive influence upon words-of-mouth ($\beta = .719$, $p < .01$), and positive influence upon purchase intention ($\beta = .124$, $p = .099$) at 90% reliability. Relation between reliability and purchase intention could be interpreted from two points of view: First, more interviewees may have significantly positive influence; Second, consumer's reliability had no standard with purchase intention promoting purchase behavior. This was because HMR product belonged not to shopping goods but to convenience goods.

In other words, reliability and purchase intention could not be applied by convenience goods. <Hypothesis 3> was adopted, and <Hypothesis 4> was rejected.

Cognition on the knowledge had no significant influence upon words-of-mouth ($\beta = .063$, $p = .404$), and had much positive influence upon words-of-mouth ($\beta = .590$, $p < .01$). As mentioned before, knowledge on the product could elevate purchase intention, and convenience goods not considering other persons had no reason of words-of-mouth.

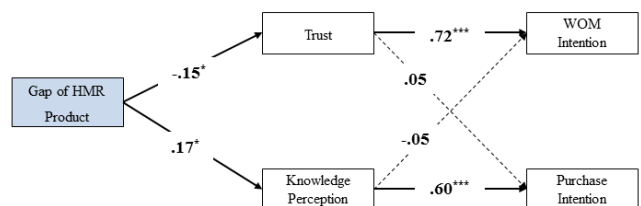
3-step mediated regression was used to test mediating effect (Baron & Kenny, 1986). The reliability completely mediated between difference (d) of the product and words-of-mouth, and partially did between difference (d) and purchase intention. And, cognition on the knowledge completely mediated purchase intention, and knowledge perception was not significant between difference (d) of the product and words-of-mouth, and between 3rd stage of knowledge perception and words-of-mouth ($\beta = .098$, $p = .192$). <Hypothesis 7-1>, <Hypothesis 7-2> and <Hypothesis 8-2> were adopted, and <Hypothesis 8-1> was rejected. Unexpectedly, reliability mediated between difference (d) of the product and purchase intention. HMR products shall be classified by either shopping goods or convenience goods. Further study on consumer's regret and repurchase shall verify not only difference of the product but also role of the reliability.

<Table 3> Results of Mediation Effect

Mediating Variable	Dependent Variable	Step	Result (β)	R ²	F
Trust	WOM Intention	1(β_1)	-.172*	.532	48.816***
		2(β_2)	-.209**		
		3(β_3, IV)	-.089 ^{n.s}		
		3(β_4, MV)	.194**		
	Purchase Intention	1(β_1)	-.172*	.068	3.152*
		2(β_2)	.168*		
		3(β_3, IV)	.194*		
		3(β_4, MV)	.157*		
Knowledge Perception	Purchase Intention	1(β_1)	.157*	.368	25.074***
		2(β_2)	.168*		
		3(β_3, IV)	.077 ^{n.s}		
		3(β_4, MV)	.579**		

Note) *p<.05, **p<.01, ***p<.001, R² and F indicate 3rd stage result.

Path analysis on structural equation was done to verify difference (d) of the product, words-of-mouth, reliability with purchase intention and cognition on the knowledge (<Figure 2>).



Note) *p<.05, **p<.001, goodness of fit: $\chi^2=12.015$, $df=4$, $p=.017$, $GFI=.975$, $NFI=.948$, $CFI=.964$, $RMR=.075$, $RMSEA=.106$.

<Figure 2> Results of Path Analysis

5. Conclusion and Discussion

This study examined effects that had influence upon decision-making of consumers under current situation, and found out conditions that enterprises took actions. Both IPA (Importance-Performance Analysis) and SERVQUAL were used to think much of casual relation model having influence upon consumers' purchase decision making and to find out strategies, and to compare expected outcome and perceived outcome and to inspect casual relation model by using gap.

Causal relation model was built up not by complicated analysis such as multidimensional scaling but by gap of importance and satisfaction to give implications. Further studies were likely to investigate consumers' answers by indirect testing.

The findings of causal relation model were: Difference (d) of consumers' complaint and/or disappointment decreased consumers' reliability to increase knowledge perception. Enterprises shall supply products according to consumers' desire to minimize gap and to give proper information. As consumers' reliability could raise words-of-mouth, so

consumers' knowledge perception could do purchase intention. So, enterprises' marketing strategies shall elevate consumer's reliability to promote purchase by supply of exact information. Result of mediation effect test differed from that of path analysis of structural equation to give conditions of further studies. Interviewees thought that HMR products were low price convenience goods (Park et al., 2015; Park et al., 2016; Yang et al., 2016). Consumers bought convenience goods, when necessary, impulsively without plenty of information to promote purchase intention and not to increase words-of-mouth intention. Further studies shall consider consumers' thinking of products. Consumers who rely upon enterprises and/or products have high subjectivity than knowledge perception. The study investigated variables being difficult to answer (Yang, 2014; Yang et al., 2016) by indirect methods, and various kinds of methods should be used to apply difference (d) of perception of consumers. MTMM(Multi-trait-multi-method) shall be used to verify effects of difference and to compare with multi-dimensional scaling and to let consumers understand in simple and convenient method.

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