The Relationship between Interdependence on Relational Satisfaction in Cosmetics Distribution Channels: Moderating Effect of Communication and Mediating Effect of Non-coercive Power

[1] Il-Suck Sun, [2] Hoe-Chang Yang

[1, First Author] Professor, Department of Logistics Management, Jangan University, Korea. E-mail: issun@jangan.ac.kr

[2, Corresponding Author] Professor, Department of Distribution Management, Jangan University, Korea. E-mail: pricezzang@jangan.ac.kr

Abstract

This study tried to examine how interdependence, communication, and the exercise of power in cosmetics distribution channel would affect satisfaction. In this study we investigated the effects of their communication and the exercise of noncoercive power of department store (or mart). We conducted with managers of the shops which were entered to department store (or mart). 131 copies were collected and 119 copies were used for analysis after the exclusion of 12 copies. Brand image and sales policy influenced satisfaction, but customers were not statistically significant. In addition, communication in distribution path had the moderating effect on the relationship between interdependence and satisfaction, and on the relationship between interdependence and noncoercive power. Sales policy and brand image in the relationship between department store(or mart) and the shops opened inside are critical factors for satisfaction, but customers are highly likely to become a factor with different meaning.

Keywords: Cosmetics Distribution Channel, Interdependence, Relational Satisfaction, Communication, Non-coercive Power.

1. Introduction

Cosmetic products have the special benefit to satisfy people's desire for physical beauty, so that they have different features from other general consumption products. With the increased quality of consumers' life by economic development and with more interest in their looks, the cosmetics market has continued to grow. Cosmetic products, which feature consumers' high preference, have a short life cycle, are developed newly fast with the use of advanced technology, and are sensitive to economic conditions and changes. Therefore, it is necessary to research the area constantly.

Traditionally, the domestic cosmetics industry featured a high added-value industry, a typical domestic demand based industry, multi-type and small-production system, monopolistic competition structure, high dependence of raw materials on foreign countries, and oligopolistic market structure. However, with the entrance of import brands into the domestic market and consumers' changed awareness of low-and mid-price cosmetic products, the market structure began to change. Compared to other industries, the cosmetics industry has various sales channels, including department store, door-to-door sale, online shopping mall, brand shop, and discount store (Zhang, et. al., 2011). In the circumstance, it is necessary to it is necessary to research the cosmetics industry from the perspective of distribution channel.

Therefore, this study tried to examine how interdependence, communication, and the exercise of power in cosmetics distribution channel would affect satisfaction. It is considered that the study results will give useful suggestions to the cosmetics distribution industry.

2. Theoretical Background and Hypotheses

2.1. Theoretical Background

The establishment of World Trade Organization in 1995 has required diversification of management activities in the environment of infinite competition without borders and has changed markets in

diversified ways. In the phenomena, the cosmetics industry has researched channel relationship as the distribution channel based response strategy beyond nation and culture (Carman, 1990; Frazier & Rody, 1991; Hakansson, 1982; Wilkinson, 1981). Achrol(1991) argued that it would be necessary to research the structure of new different distribution channels from conventional ones and strategies for the distribution channels. Ganesan(1993) defined the concept of negotiation strategy as a type of interaction used to solve the conflict arising in the business relationship of those concerned.

With the expansion of consumers in the changed circumstances of the cosmetics industry and with the influence of Korean Wave called Han-Yu, more awareness of domestic cosmetic products has been made. Also, with the diversification of sales channels, including department store, door-to-door sale, online shopping mall, brand shop, and discount store, and with the improved standard of living and economic conditions, people have more interested in aesthetic life. Since the entrance of import brands in the domestic market and consumers' changed awareness of low-and mid-price cosmetic products, the cosmetics industry has continued to develop. In the situation, distribution channels have also varied. Therefore, it is necessary to examine various kinds of influence in distribution channel. This study tries to find the influence of variables, such as interdependence, the exercise of power, communication, and satisfaction, on distributions channel. The concept of interdependence includes not only one's dependence on others, but vice versa (Yi et. al., 2011). The power by coercion is the source of coercive power generated by one's awareness that the failure to follow the opinion of an influential organization or person could lead to punishment or sanction of the person influenced (Oh, 2006), Based on the reward power which is the ability of an individual or an organization to give a reward to other people or other organizations (Bass & Burkhardt, 1993), noncoercive power includes expert power, referent power, legal power, and information power. Satisfaction represents the emotional state obtained from the evaluation of the experience associated with a subject, a behavior, or a situation (Seo et. al., 2013). Satisfaction on channels mean the emotional state obtained from the evaluation of all work relations between firms (Anderson & Narus, 1984).

2.2. Hypotheses

There have been various studies on the influence of coercive power and noncoercive power on satisfaction in distribution channel (Wilkinson, 1981; Yu & Pysarchik, 2002). The power exercised from up to down in distribution channel can be classified into various types depending on situations and features. French & Raven(1959) classified the power into reward power, coercive power, expert power, referent power, and legal power. Hunt & Nevin(1974) divided the power into coercive power and noncoercive power. Coercive power and noncoercive power can be different depending on whether the power is exercised positively or negatively. The noncoercive power used in this study introduced the concept of noncoercive power in the research of Hunt & Nevin(1974).

It was said that in terms of concept, interdependence is similar to the source of one's power for others. The total and imbalance of interdependence are considered to be the same as a firm's total power for its associated partners and asymmetry of power. Therefore, it was reported the exercise of power could influence interdependence (Emerson, 1962). The research of Park et. al.(2015) also revealed that interdependence influenced satisfaction. This study tried to examine the mediating effect of communication and the moderating effect of the exercise of noncoercive power in the condition where interdependence influences satisfaction, and set up relevant hypotheses as follows:

Hypothesis 1. If the interdependence between department store (or mart) and the shops opened inside is high, it will positively influence satisfaction.

Hypothesis 2. Communication between department store (or mart) and the shops opened inside will moderate the relationship between interdependence and satisfaction.

Hypothesis 3. Communication between department store (or mart) and the shops opened inside will moderate the relationship between interdependence and noncoercive power.

Hypothesis 4. The exercise of noncoercive power of department the relationship between interdependence and satisfaction for the shops opened inside will mediate the relationship between interdependence and satisfaction.

3. Research Model, Methodology and Empirical Analysis

3.1. Research Model
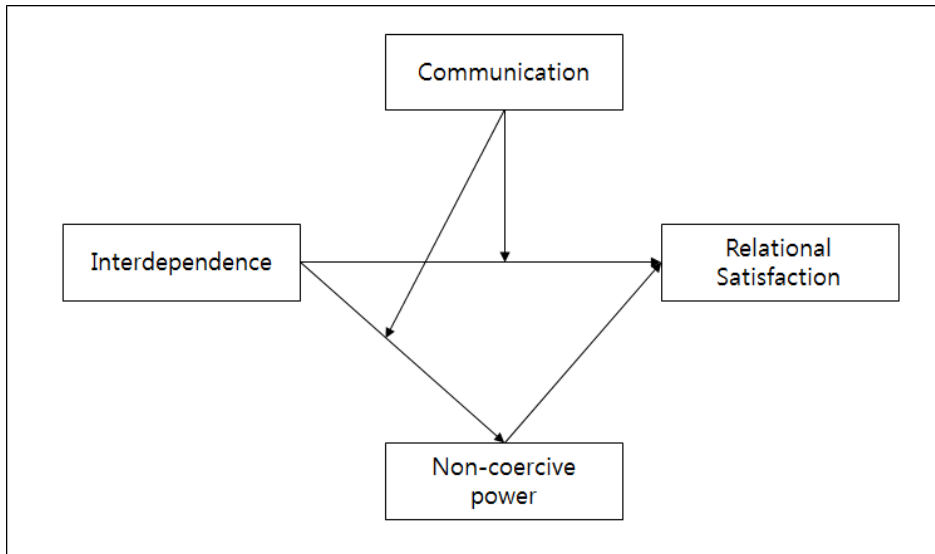
Figure1: Research model

To do that, the study model as shown in <Figure 1> was established. The model was developed on the basis of theoretical background and related previous works. Interdependence was set as independent variable, communication as moderating variable, the exercise of noncoercive as power mediating variable, and satisfaction as dependent variable.

3.2. Methodology

3.2.1. Methods and Data Collection

This study tried to examine how the factors of the interdependence between department store (or mart) and the shops opened inside influence satisfaction of the shops, and to analyze in-depth relations with the use of moderating and mediating variables. Also, it tried to investigate the moderating effect of communication between department store (or mart) and the shops opened inside and the mediating effect of the noncoercive power exercised by department store (or mart). To do that, we conducted a questionnaire survey with managers of the shops which were entered to department store (or mart). Of 198 copies distributed, 131 copies were collected. Among them, 119 copies were used for analysis after the exclusion of 12 copies that had insincere answers and no answers. The questionnaire consisted of the questions about basic personal information of respondent, about

interdependence, about the exercise of noncoercive power, about communication, and about satisfaction. Likert 5-points scale was applied to the questionnaire. For statistical process, PASW Statistics 18 and Amos 18 were used.

The basic personal information on respondents showed the demographic result of 119 participants. According to the survey, female participants (89.9%) outnumbered male ones (10.1%). That is attributable to the fact that the cosmetics industry is a women-oriented industry. Therefore, it is considered that there is no problem with the demographic result.

Table 1: Demographic Characteristics of the Sample

Item	Sub-item	Number	%
Gender	Males	12	10.1
	Females	107	89.9
Brand Type	National Brand	27	22.7
	Imported Brand	92	77.3
Cosmetic Store Position	Department Store	41	35.0
	Mart	35	29.9
	Department Store & Mart	22	18.8
	Other	21	16.3

3.2.2. Validity and Reliability

To check construct validity of the questionnaire scale and remove the items that impede construct validity, this study conducted exploratory factor analysis. All eigen values were more than 1. As a result, the factors were meaningful. In the factor analysis, Principle Component Analysis (PCA) was used to extract factors, and as Rotation Method, Varimax method useful for examining interdependence between factors was applied. <Table 2> presents the results of the factor analysis. A

total of 13 questions for measurement were categorized into four factors. Most of the 13 questions had more than 0.5 factor loading, and there was 61% explanation of the total variance.

The value of Keiser-Meyer-Olkin (KMO) which presents the extent of explanation of correlation between variables by other variables was 0.721. Generally, when the value is more than 0.5, the explanatory power of a model is accepted. Therefore, goodness-of-fit of samples ere considered to be accepted. In addition, The value of Bartlett's test of sphericity that presents a model's goodness-of-fit was 354.241 (significance probability: 0.000). Therefore, the samples used for the factory analysis was found valid.

Table 2: Results of Factor Analysis

Items	Factor loading	Eigenvalue	Variance	Factor
Interdependence 1 (i1)	.805	2.075	15.96	Interdependence
Interdependence 2 (i2)	.666			
Interdependence 3 (i3)	.597			
Communication 1 (c1)	.795	1.981	45.24	Communication
Communication 2 (c2)	.835			
Communication 3 (c3)	.721			
Noncoercive power 1 (up1)	.652	1.963	15.10	Noncoercive power
Noncoercive power 2 (up2)	.685			
Noncoercive power 3 (up3)	.730			
Noncoercive power 4 (up4)	.539			
Satisfaction 1 (s1)	.573	1.886	14.51	Satisfaction
Satisfaction 2 (s2)	.726			
Satisfaction 3 (s3)	.823			

Confirmatory Factor Analysis (CFA) was applied to the 13 items which were found valid by exploratory factor analysis. The questions whose standardized regression weight was less than 0.5 were removed. The result of confirmatory factory analysis is displayed in <Table 3>, and all Construct Reliability values were more than 7. As a result, construct validity was secured. All Average Variance Extracted (AVE) values of all variables but the excercise of noncoercive power was more than or close to 0.5, and thus convergent validity was also secured. The AVE value of the excercise of noncoercive power was 0.397 that far fell short of the criterion of general convergent validity. However, according to the correlation analysis shown in <Table 4>, it was higher than coefficient of determination which is the value of the square of correlation coefficient(Yang et al., 2014). As a result, it is judged that the excercise of noncoercive power also has validity. After validity was secured, internal consistency based reliability test was conducted on the measurement items confirmed finally in this study. To do that, Cronbach's α, the coefficient used in various studies, was used. If Cronbach's α is more than 0.7, reliability is considered to be secured (Nunnally, 1978). More than 0.6 is also acceptable in research (Chae, 2004). Therefore, it was considered that the measurement items of this study had no problem with internal consistency.

Table 3: Results of Confirmatory Factor Analysis

Variables	Items	Construct Reliability	AVE	Cronbach's alpha
Interdependence	3	0.736	0.482	.648
Noncoercive power	4	0.714	0.397	.637
Communication	3	0.777	0.542	.715
Satisfaction	3	0.787	0.556	.666

To find relations between factors, correlation analysis was conducted. The analysis result is presented in <Table 4>. Most variables had correlations with each other, but the correlation between interdependence and communication was insignificant.

Table 4: Results of Correlation analysis

variables	1	2	3	4
Interdependence	(0.482)			

Noncoercive power	.419**	(0.397)		
Communication	.100	.219*	(0.542)	
Satisfaction	.368**	.191*	.228*	(0.556)
Mean	3.28	3.12	2.88	3.25
S.D.	0.63	0.60	0.69	0.58

*p<0.05 **p<0.01

3.4. Empirical Analysis

1) Examination of the direct effect between the sub-factors of interdependence and satisfaction

To find the effect of interdependence on satisfaction, this researcher controlled demographic variables, and then conducted regression analysis. As a result, customers (i1)(β=.177, p<0.1), sales policy (i2)(β=.321, p<0.01), and grand image (i3)(β=.355, p<0.01) showed statistically significant explanatory power. In addition, to analyze the relative influence of factors, multiple regression analysis was conducted, and, as a result, brand image (β=.277, p<0.05) and sales policy (β=.223, p<0.05) had significant explanatory power, but customers didn't. It indicates that in regard to interdependence between department store (or mart) and the shops opened inside, brand image greatly influences interdependence and sales policy is also a significant factor to increase interdependence. Therefore, the hypothesis 1 was partially accepted.

2) Examination of the moderating effect of communication on the relationship between interdependence and satisfaction

To examine the moderating effect of communication on the relationship between sub-factors of interdependence and satisfaction, this researcher controlled demographic variables, and then conducted regression analysis by factor. As a result, communication between customers and satisfaction had statistically and significantly moderating effect (β=.293, p<0.05). In addition, it was analyzed that the communication between sales policy (β=.420, p<0.01) and satisfaction and between brand image (β=.411, p<0.01) and satisfaction had the moderating effect.

According to multiple regression analysis, regarding communication for satisfaction, sales policy (β=.306, $p<0.05$) and brand image (β=.270, $p<0.05$) were statistically significant, but customers (β=-.857, p=0.39) wasn't. To examine the moderating effect of communication on the relationship between overall interdependence and satisfaction, regression analysis on the relationship between interdependence and satisfaction was conducted. As a result, the higher interdependence was, the higher satisfaction was (β=.368, $p<0.01$). Communication was analyzed to have the moderating effect on the relationship between interdependence and satisfaction (β=.418, $p<0.01$). Therefore, the hypothesis 2 was accepted.

3) Examination of the direct effect between the sub-factors of interdependence and noncoercive power

To find the effect of interdependence on noncoercive power, this researcher controlled demographic variables, and then conducted regression analysis. As a result, customers (β=.202, $p<0.05$), sales policy (β=.337, $p<0.01$), and brand image(β=.432, $p<0.01$) showed statistically significant explanatory power.

In addition, to analyze the relative influence of factors, multiple regression analysis was conducted. As a result, brand image β=.359, $p<0.01$) and sales policy (β=.208, $p<0.05$) had significant explanatory power, but customers didn't.

4) Examination of the moderating effect of communication on the relationship between interdependence and noncoercive power

To examine the moderating effect of communication on the relationship between sub-factors of interdependence and noncoercive power, this researcher controlled demographic variables, and then conducted regression analysis by factor. As a result, communication between customers and noncoercive power had statistically and significantly moderating effect (β=.246, $p<0.05$). In addition, it was analyzed that the communication between sales policy (β=.328, $p<0.01$) and noncoercive power, and between brand image (β=.425, $p<0.01$) and noncoercive power had the moderating effect. To analyze the relative influence of factors, multiple regression analysis was conducted, and as a result, only brand image (β=.438, $p<0.05$) was statistically significant. To examine the moderating effect of communication on the relationship between overall interdependence and noncoercive power, regression analysis on the relationship between interdependence and noncoercive power was conducted. As a result, the higher interdependence was, the more noncoercive power was exercised (β=.419, $p<0.01$). The analysis on the moderating effect revealed that communication had the moderating effect on the relationship between sub-factors of interdependence and noncoercive power (β=.373, $p<0.01$). Therefore, the hypothesis 3 was accepted.

5) Examination of the mediating effect of noncoercive power on the relationship between interdependence and satisfaction

To examine the hypothesis as to the mediating effect on the relationship between sub-factors of interdependence and satisfaction, this researcher conducted three-step mediated regression analysis of Baron & Kenny(1986). The analysis result is presented in <Table 5>. According to the analysis on the mediating effect, customers had full mediation, and sales policy and brand image had no mediating effect. Therefore, the hypothesis 4 was partially accepted.

Table 5: Results of three-step mediated regression analysis

Independent variable(IV)	Dependent variable(DV)	Step	β	p	R²	F
Satisfaction	Customers (i1)	1(β1)	.202	0.028**	.570	3.482**
		2(β2)	.177	0.054*		
		3(β3, IV)	.145	0.119		
		4(β4, DV)	.162	0.081*		
	Sales Policy (i2)	1(β1)	.337	0.000***	.111	7.209**
		2(β2)	.321	0.000***		
		3(β3, IV)	.289	0.002**		
		4(β4, DV)	.094	0.315		
	Brand image (i3)	1(β1)	.432	0.000***	.128	8.504***
		2(β2)	.355	0.000***		
		3(β3, IV)	.335	0.001**		
		4(β4, DV)	.046	0.484		

*p<0.1 **p<0.05 ***p<0.01

4. Conclusion

With the improved standard of living by economic development, the cosmetics industry has continued to grow. The global cosmetics market size, which was worth around USD 213.7 billion in 2009, has gradually grown to around USD 231.1 billion in 2011 and to around USD 249.5 billion in 2013. In particular, the Korean cosmetics market size worth KRW 7,624. 2 billion increased 8.6% from last year. In 2013, GDP increase rate of the cosmetics industry reached 11.9%, far higher than the domestic GDP increase rate (3.7%) and the increase rate of the manufacturing industry (4.5%), proving its high growth (Korea Health Industry Development Institute, 2014). (KHIDI, 2015) In addition, with the changed needs of cosmetic product consumers and the development of e-Commerce, a more diversity of distribution channels have emerged. In the circumstance, this study investigated the influence of various factors in distribution channel on satisfaction, and examined how interdependence, communication, and the exercise of power influence satisfaction in the cosmetics distribution channel. How the sub-factors (customers, sales policy, and brand image) of interdependence between department store (or mart) and the shops opened inside influence satisfaction was analyzed. As a result, brand image and sales policy influenced satisfaction, but customers were not statistically significant. It indicates that sales policy and brand image in the relationship between department store (or mart) and the shops opened inside are critical factors for satisfaction, but customers are highly likely to become a factor with different meaning. In addition, communication in distribution channel had the moderating effect on the relationship between interdependence and satisfaction, and on the relationship between interdependence and noncoercive power. It means that more activated communication between them lead to an increase in satisfaction. Therefore, to improve satisfaction in distribution channel, it is necessary to reflect opinions of those concerned in establishing win-win sales policy and to come up with a plan to boost the overall brand image.

Regarding the mediating effect of noncoercive power on the relationship between sub-factors (customers, sales policy, and brand image) of interdependence and satisfaction, the sub-factor of customers had the mediating effect, whereas sales policy and brand image had no mediating effect. Compared to the study result of Park et. al.(2015), according to which coercive power negatively influenced satisfaction and noncoercive power positively affected satisfaction, this study result was a little different. Park et. al.(2015) examined only the direct influence of noncoercive power, but found the mediating effect of customers in the aspect of indirect mediating effect.

References

Achrol, R. S. (1991). Evolution of the Marketing Organization New Forms for Turbulent Environments. *Journal of Marketing,* 55(October), 77-93.

Anderson, J. C., & Narus, J. A. (1984). A Model of the Distributor's Perspective of Distributor-Manufacturer Working Relationships. *Journal of Marketing*, 48(4), 62-74.

Baron, R. M., & Kenny, D. A. (1986). The Moderator–mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology,* 51(6), 1173-1182.

Bass, J. D., & Burkhardt, M. E.(1993). Potential Power and Power Use: an Investigation of Structure and Behavior. *Academy of Management Journal*, 36(3), 441-470.

Carman, J. M. (1990). A Cross-National Comparison of Relations in Automobile Channels of Distribution. In Advances in International Marketing, Vol 4, S Tamer Cavusgil(ed), Greenwich, CT' JAI Press, Inc,

Emerson, R. M. (1962). Power-Dependence Relations. *American Sociological Review*, 27(2), 31-41.

Frazier, G. L., & Rody, R. C. (1991). The Use of Influence Strategies in Interfirm Relationships in Industrial Product Channels. *Journal of Marketing*, 55(January), 52-69.

French, J. R., & Raven, B. (1959). *The Bases of Social Power. in Dorwin Cartwright* (Ed). Studies in Social Power, Ann Arbor, MI: University of Michigan Press.

Ganesan, S. (1993). Negotiation Strategies and the Nature of Channel Relationships. *Journal of Marketing Research,* (May), 183-203.

Hakansson, H. (1982). *International Marketing and Purchasing of Industrial Goods An Interaction Approach.* Chichester, UK: John Wiley & Sons.

Hunt, S. D., & Nevin, J. R.(1974). Power in a Channel of Distribution: Sources and Consequences. *Journal of Marketing Research*, 11(2), 186-193.

Nunnally, J. C. (1978). *Introduction to Psychological Measurement*. New York: McGraw-Hill.

Oh, Se-Jo (2006). *Market-Oriented Distribution Management.* Seoul: Pakyoungsa.

Park, Su-Hong, Yang, Hoe-Chang, & Sun, Il-Suck (2015). The Effect of the Business Relationship in the Distribution Channel of the Cosmetics Industry on Conflict and Satisfaction. *Journal of Distribution Science,* 13(6), 79-86.

Seo, Min-Kyo., Kwon, Jae-Hyun, & Choi, Young-Jun (2013). Impact of Logistics Service Quality on Customer Satisfaction and Loyalty in Parcel Service. *Korea Logistics Review*, 23(5), 239-262.

Wilkinson, I. F. (1981). Power, Conflict, and Satisfaction in Distribution Channels-An Empirical Study. *International Journal of Physical Distribution and Materials Management*, 11(7), 20-30.

Yang, Hoe-Chang., Jeon, Jun-Ho., & Park, Jong-Rok (2014). Contact Frequency and Psychological Distance between Leaders: Job Distress and Mediation through Employees'' Perceived Self-Leadership. *Journal of Distribution Science*, 12(6), 41-48.

Yi, Ho-Taek., Lee, Han-Geun., & Ji, Seong-Goo (2014). The Antecedents and Consequences of Manufacturer Allowances Expenditure: Resource-based View and Power-Dependence View. *Korea Marketing Review,* 29(3), 51-71.

Yu, Jong-Pil., & Pysarchik, D. T. (2002). Economic and Non-economic Factors on Korean Manufacturer Retailer Relations. The International Review of Retail*. Distribution and Consumer Research,* 12(3), 297-318.

Zhang, Yuan-Rong., Kang, Seung-Chul., & Min, Dai-hwan (2011). Impact of CRM Activities on Behavioral Intention Through the Relational Benefits: A Focus on the Cosmetic Industry. *Journal of the Korea society of IT Service*, 10(2), 21-39.