The Product Market Strategies of Korean Knitwear Companies

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Abstract

The purpose of this study is to investigate how three factors-designer's capability, product market strategy, and product organization-supposed to determine the design process are related to each other. These factors influence Korean knitwear companies' market performances. For this purpose, we did not only library research on relevant theories such as the transaction cost economics but also empirical research largely based on a questionnaire. The respondents of the questionnaire were 59 designers, merchandisers(MDs), and top managers of knitwear companies located in Seoul. We analyzed the collected questionnaire data by using such statistical tools as χ^2 -test, t-test, and one-way ANOVA. Findings of this study were as follows. While there was a significant relation between organization form and designer's capability, no significant difference in designer's capability was found between trust enhanced network and unenhanced network. No significant relation was found between organization form and product market strategy, in discordance with Carney's arguments. Also, it appeared that there was no significant relationship between knitwear companies' product market strategies and their designers' capabilities.

Key words : fashion promotion, knitwear industry, trust enhanced production networks, unenhanced production networks, vertically integrated firms.

I. Introduction

Demand for knitwears has been strong in the international and domestic market. Especially in the domestic market, according to Korea Federation of Textile Industries,¹⁾ the demand has remarkably risen for all the levels of age and both sexes. It is because consumers increasingly enjoy comfortable and active knitwears as their sense of fashion is enhanced and the amount of their leisure time is increased.

In spite of this strong demand for knitwears,

the Korean knitwear industry, once flourished, is now facing serious difficulties in both the international and domestic market. On the one hand, it has obtained no portion of high-end market dominated by its potential competitors in developed countries such Italy, France, and Japan, of which strength largely comes from value added products based on quality knitwear design. On the other hand, it has lost a huge portion of its market share to competitors in developing countries such as China and Mexico, which have strong price competitiveness based on low labor costs, the main source of the pre-

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¹ KOFOTI, 2002 Report on the Pattern of Consumers' Purchase of Clothes (Seoul: KOFOTI, 2003): 18-26.

vious strength of the Korean knitwear industry.²

In order to cope with these difficulties, the Korean knitwear industry can no longer adhere to its previous market strategy based on price competitiveness because of its relatively high labor costs. Instead, it should advance itself up to the market strategy of developed countries, which is characterized by quality knitwear design targeting the high-end knitwear market. This design-differentiated, high-end market strategy, as previous studies assert, needs not only certain kinds of productive assets such as designers' capability to create high quality design but also certain product organization forms, for example, either well-coordinated vertically integrated knitwear companies or trust-based production networks between knitwear companies ('brand companies') and their jobbers('promotion companies'). Brand companies which own their knitwear brands, subcontract certain tasks in the design process from production planning to manufacturing of samples to their promotion companies. If a brand company internalizes the whole design process in itself, it is a vertically integrated company. In this study, when product organization forms are discussed, they are confined to ones organized in the design process.

On the assumption that three variables, that is, product market strategy, productive asset, and product organization are related to each other in a specific manner, the following major question is asked in this study: Is the relationship between those three variables found in the knitwear industry in developed countries also found in the Korean knitwear industry? The reason for asking this question is to investigate the possibility that our knitwear industry will upgrade itself into developed countries' relationship between product market strategy, productive asset, and product organization.

II. Theoretical Background

Our theoretical perspective in this study largely depends on Mick Carney's study.³⁾ He investigated the relationship of product market strategy, industrial organization forms and productive asset on the basis of two major concepts, asset specificity and trust, each of which comes from the transaction cost economics, and from such sociological concept as 'embeddedness'.⁴⁾ Carney's perspective and his theoretical background can be reviewed in terms of three organization forms, that is, vertically integrated firm, unenhanced production network, and trust enhanced production network.5) Below, while discussing these product organizations forms, we will review Carney's arguments about their relationship with product market strategies and productive assets.

Here, it needs an explanation that we select the above-mentioned three variables and exclude other variables in this study. The selection of those variables depends on numerous studies in the 1980s and 1990s, which tried to explain remarkable economic performance achieved by firms in Japan, north Italy and southern Germany. For that explanation, these studies commonly focused on those three variables and their relationship. For example, in order to understand economic performance of companies in north Italy, Piore and Sabel paid attention to product market strategies aiming at so-called niche market, product organization forms such horizontal production networks, and productive assets such as skilled workers using flexible multi-purpose assets, and the relationship between these factors.6)

² KOFOTI, Texherald, Textile Year Book 2001 (Seoul: KOFOTI, 2002): 70.

³ M. Carney, "The Competitiveness of Networked Production: The Role of Trust and Asset Specificity," *Journal of Management Studies*, 35 (July 1998): 457-479.

⁴ M. Granovetter, "Economic Action and Social Structure: the Problem of Embeddedness," American Journal of Sociology, 91 (1985): 481-493.

⁵ M. Carney, Op. cit., 457-479.

⁶ M. Piore and C. Sable, The Second Industrial Divide (New York: Basic Books), 1984.

Of course, beside those three variable, other variables such as labor relations and marketing strategy can be used in understanding firms' economic performance. However, those variables are not structurally related to the above-mentioned three variables, or go beyond our theoretical concerns. Accordingly, we exclude them from this study.

1. Vertically Integrated Firm, Its Productive Assets and Product Market Strategy

Carney's concept of vertically integrated firm is based on Williamson's transaction cost economics,⁷⁾ according to which economic exchanges among firms in the marketplace are accompanied with various transaction costs. As transaction costs grow beyond a certain level, it is argued, a firm seeks to minimize those costs by integrating functions purchased from other independent firms into its own organization, that is, by internalizing those functions by turning itself into a vertically integrated firm.

One of the central concepts of Williamson's theory is asset specificity defined as 'the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrificing productive value'.8) An asset is transaction-specific to the extent that its value diminishes if the transaction or relationship ends in the market. A transaction can end when a party of the transaction chooses opportunistic behaviors such as hold-up. Here the diminished value of the asset is a transaction cost, proportional to the degree of asset specificity. Where technological or economic changes create the opportunities of high performance economies with scale and scope economies, that is, where the use of specialized asset are more competitive than the use of generic asset, Williamson argues, firms seek to minimize transaction costs of specialized assets by internalizing those assets.

Following Williamson's insight on the relationship between vertically integrated firm as an organization form and its internalization of highly specialized assets, Carney argues that the vertically integrated firm tends to deploy highly specialized assets, with which it tends to supply its innovative proprietary/ differentiated products into the market while pursuing scale and scope economies.⁹⁾

We, accepting Carney's argument, propose that a vertically integrated knitwear company deploys its highly specialized human assets to implement its product market strategy of producing design-differentiated/premium-priced knitwears. Here, the vertically integrated knitwear company is a company that internalizes the whole design process from production planning to manufacturing of samples. This company tends to deploy highly specialized human assets, that is, designers whose capability--skills, knowledge, and creativity--are specific to certain stages of design process, certain knitwear products, and their company.

Of course, productive assets include not only human asset but also physical assets such as knitting machines and brand names. However, the use of core physical assets like computerized knitting machines is now so common throughout the industry that those assets cannot be considered to differentiate product organization forms and product market strategies. Rather, since it is the capability of designers that strongly determines product organization forms and product market strategies, we focus on it as the most important productive asset in this study. Brand names are also closely related to at least product market strategies. However, because the value of brand name is determined largely by the quality

⁷ O. E. Williamson, *Transaction Cost Economics*, ed. Masten Scott, E. (Cheltenham: Edward Elgar Pub, 1995): 136-182.

⁸ O. E. Williamson, "Comparative Economic Organization: the Analysis of Discrete Structural Alternative", Administrative Science Quarterly, 36 (1991): 285.

⁹ M. Carney, Op. cit., 457-479.

of design, a brand name is not considered to be a more substantial asset than a designer who creates the value of the brand name.

It is relatively easy to explain the relationship between the use of highly specialized designers as a productive asset and the production of design-differentiated, and so premium-priced knitwears as a product market strategy. Designers highly specialized in each specific area, when properly coordinated by a vertically integrated knitwear company, will produce design-differentiated/premium-priced knitwears. In Korea, this product market strategy is more competitive than the strategy to produce design-undifferentiated/low-priced products, because of a significant rise of labor cost and consumers' upgraded purchasing behaviors.

2. Trust Enhanced and Unenhanced Production Networks, Their Productive Assets, and Product Market Strategies

As an organization form contrasted to vertically integrated firm, Carney proposes the concept of production network, within which a group of independent firms economically transact with each other.¹⁰⁾ In addition, he proposes two kinds of production networks--trust enhanced production network and unenhanced production network, relying on sociological accounts which are made by scholars such as Granovetter.¹¹⁾

Granovetter's basic perspective is that 'economic action is embedded in structures of social relations. Criticizing Williamson's transaction cost economics, Granovetter argues that vertically integrated organizations do not necessarily guarantee the reduction of transaction costs and that economic exchanges between independent firms will not generate significant levels of transaction costs if the economic exchanges are embedded in trust-based social relations of firms.¹²

In other words, unenhanced production networks use generic productive assets. Unenhanced production networks have no trust-based social relations which will reduce transaction costs, they deploy generic assets which is transaction costs neutral. Or it can be said that the use of generic assets do not require elaborate governance structures such as trust-based social relations. Firms in unenhanced production networks can redeploy their generic assets to other products and to other partners rapidly and flexibly without losing the value of those assets. Carney argues that firms in those networks choose product market strategies to produce low-priced, low-cost, diversified products by using their generic assets.

In accordance to such arguments, we propose that the trust enhanced and unenhanced production network have different relations to the specificity of their human assets and their product market strategies. A trust enhanced production network is comprised of a knitwear brand company(contractor) and its jobbers(subcontractors)

Combining this sociological account with the concept of asset specificity, Carney argues that the networks of economic exchange embedded in trust-based social relations, in his terms, trust enhanced production networks tend to invest in specialized assets since those networks can reduce transaction costs potentially deriving from those assets. Firms in these networks, he argues, choose product market strategies to produce premium-priced, proprietary products by using their specialized assets. Also, these firms are argued to co-operatively invest in specialized assets and co-operatively participate into R&D. Trust enhanced production networks. Carney argues, use less specialized assets than vertically integrated firms, but more specialized assets than unenhanced production networks where there are no trust-based social relations.¹³⁾

¹⁰ M. Carney, Op. cit., 457-479.

¹¹ M. Granovetter, Op. cit., 481-493.

¹² M. Granovetter, Op. cit., 481-493.

¹³ M. Carney, Op. cit., 457-479.

which take over certain tasks in the design process in the trust-based relationship with the brand company. This network tends to employ designers with relatively highly specialized skills, knowledge and creativity to implement its product market strategy to produce design-differentiated/premium-priced knitwears. In contrast, an unenhanced production network consists of a brand company and its jobbers which take over part of the design process in the untrustworthy relationship with the brand company. This network tends to employ generic human assets, that is, designers whose shallow but broad skills and

work tends to employ generic human assets, that is, designers whose shallow but broad skills and knowledge can be redeployed to various stages of design process, various knitwear products, or other brand companies without any loss in value. This flexibility in the use of its human assets can be advantage to the network. But, with its generic human assets, this network cannot but implement its product market strategy to produce design-undifferentiated/ low-priced knitwears, which are increasingly uncompetitive in Korea, as mentioned above.

The above discussion can be summarized in terms of the three variables of which relations this study focuses on. Product organization form can be defined as the organization form of a firm or the organization form of economic exchange between firms, which governs the process of producing goods and service. In this study, product organization forms are categorized into three: vertically integrated firm internalizing the whole design process; trust enhanced production network comprised of a brand company and its jobbers who take over part of the design process in a trust-based relation with the brand company; and unenhanced production network comprised of a brand company and its jobbers who take over part of the design process in an untrustworthy relation with the brand company. In this study, the distinction between trust enhanced network and unenhanced network is made in terms of the following factors: the duration and the stability of trading relations between a brand company and its jobbers, and the degree of trust between them.

Productive assets are tangible and intangible assets which firms can control and use to produce goods and service. They include physical assets such as machines and factory sites, human assets such as employees and an employer. and others such as brand names. Here, for the purpose of this study, we focus only on one of human assets, that is, designers' capability such as creativity, skills and knowledge. As mentioned above, there are different levels of specificity of designers' capability. In this study, the human asset specificity is measured in terms of the score of a test for designer's knowledge about design and textile. We measure the level of knowledge rather than the level of creativity and skill since it is difficult to measure the latter in an objective manner. This is one of important limitations in our study.

Product market strategy is that a firm decides on its target market and produces goods and service meeting that market while taking into account its own situation. It is different from marketing strategy, that is, the strategy of effectively selling products. There are many standards by which product market strategy is categorized. The standards are, for example, targeted consumers' ages and the style of products such as formal wears and sports wears. For the purpose of this study, two interrelated standards, design quality and price are chosen, product market strategies are categorized into designdifferentiated/premium-priced product strategy and design-undifferentiated/ low-priced product market strategy. Usually these two are called high-end and low-end market strategies. Between the two, there is the average-priced product strategy in which design is intermediately differentiated.

. Methods

1. Research Questions

Research question 1: Is there a significant relation between product organization form and human asset specificity, that is, the specificity of designers' capability in the Korean knitwear industry? If the argument proposed above is true, it should be found that a vertically integrated knitwear company and companies in a trust enhanced production network have designers with more specialized capability than companies in an enhance production network.

Research question 2: Is there a certain relation between product organization form and product market strategy? If our argument is correct, it should be found that a vertically integrated knitwear company and companies in a trust enhanced production network take high-end market strategies while companies in an enhance production network take low-end market strategies.

Research question 3: Is there a significant relation between the specificity of designers' capability and product market strategy? If our argument is correct, it should be found that a company with a high-end market strategy employs designers with specialized capability while a company with a low-end market strategy employs designers with generic capability.

2. Methods

The major data for this study were collected through a questionnaire survey, of which respondents were designers, merchandisers(MDs), and top managers of knitwear brand companies located in the Seoul area. The questionnaire included items of general information on knitwear companies such as total earnings and the number of employees. Also, it included the items about a company's product market strategy, that is, items about the price of a company's core knitwear product, the location where its products are sold, the age of the consumers of its core product, and the ratio of its domestic market to its international market.

The questionnaire items for product organization form were created partly on the basis of studies by Brown¹⁴⁾ and the Korea Institute for Industrial Economics and Trade¹⁵⁾. As to the relationship between a brand company and its jobbers, three questionnaire items were constructed on the basis of studies by Lee¹⁶⁾ and Kamath and Liker¹⁷): those three were of the duration of the relationship, the degree of trust between a brand company and its jobbers, and the degree of equality in transaction between them. Also, we created questionnaire items to measure designer's technical knowledge while referring to Lee's study,¹⁸⁾ which, in turn, was based on Brucks' concept of knowledge.¹⁹⁾ The last part of the questionnaire was made up of respondent's individual variables such as age, sex, education, yearly salary, task, and the period of employment. The questionnaire was implemented in December, 2002.

3. Data and Analysis

Among 65 randomly-sampled respondents to the questionnaire, 59 cases were proved to valid for statistical analysis. As statistical tools, chisquare statistic, t-test and one-way ANOVA were used. General information on respondents' companies was as follows.

As shown in Table 1, it was found that most of companies gave more weight to the domestic

¹⁴ P. Brown, Ready to wear apparel analysis (New York: Macmillan, 1998), 3.

¹⁵ H. J. Kim, S. J. Lee and J. S. Park, *The Industry of Fashion Design and Its Growth Strategy* (Seoul: Korea Institute for Industrial Economics & Trade 1999): 12-13.

¹⁶ K. Y. Lee, "A Study on the Impact of Business Relation between Subcontractor and its Host Company on its Product Quality," (Master's thesis, Hanyang University, 1996): 13-16.

¹⁷ R. R. Kamath and K. L. Jefferey, "A Second Look at Japanese Product Development," *Harvard Business Review*, Nov.- Dec. (1994): 158.

¹⁸ J. Y. Lee, "A Study on the Clothing Product Knowledge of Consumers and their External Information Search," (Master's thesis, Hanyang University, 1994): 33-34.

¹⁹ M. Brucks, "The effects of product class knowledge on information search behavior," *Journal of Consumer Rearch*, 12 (June 1985): 1-16.

market than to the international market. Indirectly, it means that the Korean knitwear industry has had good economic performance in the international knitwear market recently. Also, on the basis of the data about total earnings and the number of employees, it can be said that Korean knitwear companies are small or medium-sized. As to consumers' ages, Korean knitwear companies targeted on the age of twenties more intensively than any other ages. It indirectly means that young people enjoy wearing knitwears more than old people. But $\langle Table 1 \rangle$ indicates that old people also enjoy knitwears.

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IV. Results and Discussion

1. Designer's Capability and Product Organization Form

In this study, the specificity of designer's capability is measured in terms of the score of a test for designers' knowledge about design and textile. 15 items were used in measuring their knowledge about textile, and 13 items in measuring their knowledge about design. One point was given to a correct answer to each item, so that the perfect score was 28 points. As shown in $\langle Table 2 \rangle$, the mean score of knowledge about textile was 8.62. These scores do not seem so high, implying that Korean designers' capability is not so specialized.

As to product organization form, in this study, the number of vertically integrated brand companies which internalized the whole design process was 17, companies in a trust enhanced production network were 13, and companies in an unenhanced production network were 10. There were 19 companies which did all things of the design process and were extremely small in Dongdaemoon market were excluded from some analyses.

As shown in $\langle Table 4 \rangle$, we found that there was a significant relation between product organization form and the specificity of designer's capability. However, in discordance to Carney's argument, no significant difference in the speci

Value Label Frequency (%) Item Less than 9 (15.3) 1 billion won $1 \sim 5$ billion 11 (18.6) $5 \sim 10$ billion 9 (15.3) **Total Ernings** More than 15 (25.4) 10 billion Not respond 15 (25.4) Tota) 59 (100.0) Less than 10 14(23.7)10 ~ 20 9 (15.3) 21 ~ 50 8 (13.6) Number of 51 ~ 100 4 (6.8) Eployees More than 100 19 (32.2) Not respond 5 (8.5) Total 59 (100.0) The Ratio of Less than 50% 2 (3.4) Domestic Market to More than 50% 57 (96.6) International Total 59 (100.0) Market Infant/Toddler 7 (10.9) /Teenager 20 26 (40.6) Target $30 \sim 40$ 14 (21.9) Age* 50 16 (25.0) All ages 1 (1.6) Total 64 (100.0)

(Table 1) General Information on Brand Companies

* It was a multiple-choice item.

ficity of designer's capability was found between trust enhanced production network and unenhanced production network. Although explaining this discrepancy needs a further study, it could be explained in the following way: the trust between a brand company and its jobbers in

Test	Mean Score (Full marks)
Design Knowledge	7.89 (13)
Textile Knowledge	8.62 (15)
Total	16.51 (28)

(Table 2) Designer's Capability (n=59)

Product Organization Form	Frequency(%)	
Vertically Integrated Firm	17 (28.8)	
Trust Enhanced Production Network	13 (22.0)	
Unenhanced Production Network	10 (17.0)	
Small Dongdaemoon Firm	19 (32.2)	
Total	59 (100.0)	

(Table 4) Relation between Product Organization Form and Designer's Capability

Organization Form	Designer's Capability mean	F-value	
Vertically Integrated Firm	19.06	5.574**	
Trust Enhanced Network	14.38		
Unenhanced Network	14.3		
Total	16.35	1	

Korea is not horizontal but paternalistic so that it does not contribute to either breeding the specialized capability of their designers or employing designers with specialized capability.

2. Product Market Strategy and Product Organization Form

In this study, the product market strategy is rather roughly measured in terms of the price of company's core knitwear products. The companies, of which core products' prices were over the average prices of the same kinds of products in the market, amounted to 37.3% to the total number of companies, as shown in $\langle \text{Table 5} \rangle$. The number of companies of which core products' prices were around the average market prices of the same kinds of products amounted to 30.5%, and the number of companies of which core products' prices were below the average market price was 32.2%.

As shown in $\langle Table 6 \rangle$, no significant relation was found between product organization form

(Table 5) Product Market Strategy

Product Market Strategy	Frequency(%)
High-Priced Products	22 (37.3)
Average-Priced Products	18 (30.5)
Low-Priced Products	19 (32.2)
Total	59 (100.0)

(Table 6) Relation between Product Organization Form and Product Market Strategy

Organization	Vertically	Trust	Unenhanced	$\chi^2(df)$
Market Strategy	Integrated Firm	Enhanced Network	Network	
High-Priced	12	6	4	
Product	70.6%	46.2%	40.0%	
Average-Priced	5	7	6	2.98(2)
Product	29.4%	53.8%	60.0%	
Total	17 100.0%	13 100.0%	10 100.0%	

Note: Small Dongdaemoon firms were excluded from the analysis.

and product market strategy. This result was contradictory to Carney's argument. While there was a significant difference in product market strategy between vertically integrated firms and trust enhanced/unenhanced networks, no signifi-

3. Product Market Strategy and Designer's Capability

cant difference in product market strategy was

found between the two kinds of networks,

We used ANOVA analysis to see whether there was a significant difference in the specificity of designers' capability between various product market strategies. As shown in $\langle Table 7 \rangle$, the result of the analysis was that there was no significant difference in designer's capability between various product market strategies. While this discrepancy should be examined by a further study, this result can be interpreted to indicate that there was no difference in the degree of specificity of capability between designers who design high-priced/high-end products and designers who design low-priced/low-end products. Also, the difference in the price of product can be interpreted to be the difference in the cost of raw materials, or the result of a marketing strategy, by which products are simply highly priced in order to attract consumers,

V. Conclusion and Recommendations

From the analysis, it was found that some findings were contradictory to Carney's argu-

(Table 7) Relation between Product Market Strategy and Designer's Capability

Product Market Strategy	Designer's Capability mean	F-value
High-priced Product	16.86	
Average-Priced Product	15.72	27
Low-Priced Product	16.89	.57
Total	16.52	

ments about the relationship between product organization form, product market strategy, and asset specificity. According to Carney, there should be a significant difference in the specificity of designer's capability between trust enhanced production network and unenhanced production network. Also, a significant difference in product market strategy should be found between the two kinds of networks. In addition, there should be a significant difference in the specificity of designers' capability between various product market strategies.

But these differences were not proved in our analysis. It does not mean that some parts of Carney's theory should be rejected. Rather it is highly probable that some factors in the Korean knitwear industry prohibit his theory from being fully applied to the Korean knitwear companies.

Probably, no significant difference both in the specificity of designer's capability and in product market strategy between trust enhanced and unenhanced production networks can be explained by the following fact. In Korea, there has been an unproductive dominant-subordinate relation between a brand company and its jobbers, even when the relation is trust-based. That dominant-subordinate relation has prohibited the companies from obtaining or breeding the highly specialized designers' capability, thereby from pursuing high-end market strategies. It seems to be a hurdle which the Korean knitwear industry has to overcome in order to reinvigorate itself and challenge developed countries' dominant market positions.

Also, as $\langle Table 2 \rangle$ shows, the level or specificity of Korean knitwear designers' capability is rather low. It seems partly due to certain problems in training programs for designers in the colleges and other institutions. On the basis of these findings, the following things can be recommended to the Korean knitwear industry. First, the industry should pay attention to improving the specificity of designers' capability in order to enter into the high-end knitwear market; it has to stop imitating knitwear design of foreign companies. Second, relations between brand

companies and their jobbers, on which the Korean knitwear industry heavily rely, should be changed into more horizontal and more cooperative ones; this change will significantly contribute to improving knitwear designers' capability. Third, training programs for designers in the colleges and other institutions should be improved to enhance the specificity of designers' capability.

This study has some limitations, which has to be solved by further studies. This study's findings should be cautiously generalized since only a small number of knitwear companies located in the Seoul area were analyzed. Also, in measuring the specificity of designer's capability, we used only test scores indicating designers' certain knowledge. The method of fully measuring the specificity of designer's capability should be developed by future studies.

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