

An Exploratory Study on Strategic Type and Performance in Supplier Relations: Assessment of Strategic Context

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ABSTRACT

Supplier relations are an alliance form. Understanding and management of supplier relations is growing in strategic importance and supplier relations are being recognized as important in developing sustainable competitive advantage. Though supplier relations have been studied mainly in strategic management field, previous studies have focused on the organizational context(variable). Compared to previous studies, this study focuses on the strategic context (variable). Specifically, whether strategic context, especially, strategy type - unique strategy of buyer affects the performance in supplier relations is studied. First, strategic type is reviewed. Porter's and Miles and Snow's typology are used. Basic ideas to create those typologies are simply reviewed from two classics - Competitive Strategy (1980) and Organizational Strategy, Structure and Process (1978). Second, among previous studies on two typologies, Segev (1987)'s study to synthesize two typologies conceptually is introduced. Third, among previous studies on supplier relations, product development is simply reviewed. Fourth, as the linkage between strategic types and supplier relations, demand uncertainty is reviewed and hypothesis is established. Finally, research implication is suggested. That is, choice of industry, sampling and measure and questionnaire are introduced.

INTRODUCTION

Supplier relations are an alliance form and have been studied mainly in strategic management and international management. The understanding and management of supplier relations is growing in strategic importance. Supplier relations are being recognized as important in developing sustainable competitive advantage (Helper and Mudambi, 1998). Previous studies have focused on the sources of the competitive advantage in supplier relations. That is, the important research topics are the following: *What are the sources of competitive advantage?, How do the sources affect the performance?, What are the determinants of the sources?* (Dyer, 1996a, 1996b, 1997; Dyer and Chu, 2000 ; Dyer and Nobeka, 2000; Kotabe, Martin and Domoto, 2003). But, these sources are mainly organizational (relational) context - asset specificity, trust, information sharing, transaction cost and so on. Though supplier relations have been studied in strategic management, actually 'strategic context' has not been studied.

In this exploratory study, whether strategic context in supplier relations, especially, strategic type affect the performance will be studied. Then, if the effect exists, this study will give the implication that strategic context can be thought one of variables to be considered in

supplier relations (with other relational variables). Also, further, the relationship between strategic context and relational variables needs to be considered.

STRATEGIC TYPE

Generally, two strategic typologies have been broadly cited and studied. One is Porter's typology (Cost Leadership, Differentiation and Focus)¹ and the other is Miles and Snow's typology (Defender, Prospector, Analyzer and Reactor).² These two business-level strategic typologies, both based on comprehensive studies, with their rich data and cases studies, are major addition to the strategic literature (Segev, 1989). These two typologies are from the classical works - *Competitive Strategy* (1980), Michael Porter and *Organizational Strategy, Structure and Process* (1978), Miles and Snow. In the first place, to review the basic idea for these typologies may be meaningful.

COMPETITIVE STRATEGY (1980) MICHAEL E. PORTER

Porter starts from the environment, specifically, industry. His assumption is that competition is from the economic structure and this goes beyond competitors' behavior. Also, the state of competition is decided by five forces. Firm should develop the *defendable* strategy for these five forces. To do this, the economic and technical characteristics of these five forces should be analyzed. This is structural analysis. Finally, the fundamental characteristics of Porter's typology are reflected in the economic and technical characteristics of the five forces introduced in the text.

ORGANIZATIONAL STRATEGY, STRUCTURE AND PROCESS (1978) MILES AND SNOW

Miles and Snow start from organizational adaptation. That is, they started to explore the patterns of organization adapting to environment. Their assumption is that organization acts to create the environment and management's role is critical. This is called 'strategic choice'. Also, for each organization, there is specific powerful management group and this is called 'dominant coalition'. For example, for information technology venture firm, management group having the engineering background may be dominant coalition. In the overall process to adapt to the environment, there are three main problems. They are the entrepreneurial problems, the engineering problem and the administrative problem. These problems are called 'Adaptive Cycle'³. Finally, Miles and Snow's typology is organization type related to solve these problems in the process of organization adapting to the environment.

PREVIOUS STUDIES ON STRATEGIC TYPES

Literature review of studies on strategic types was done focusing on major management journal - *Academy of Management Journal*, *Strategic Management Journal* and *Administrative Science Quarterly* (1980-2004). Overall in the 1980's and the early 1990's, studies on two typologies were concentrated. Here, among those studies, there was a paper to synthesize two typologies (Segev, 1989).

ELI SEGAV (1989)'S STUDY

In this study, 31 strategic variables⁴ are used. They are based on main variables - environment, strategy content, strategy-making process, organizational structure, performance, and organization characteristics. 25 MBA students participating in an elective seminar on 'Strategic Typologies' judged (or evaluated). So, Porter's and Miles and Snow's typologies were evaluated for 31 strategic variables and mapped (For detail mapping method, see Segev (1989)). The final map is the following.

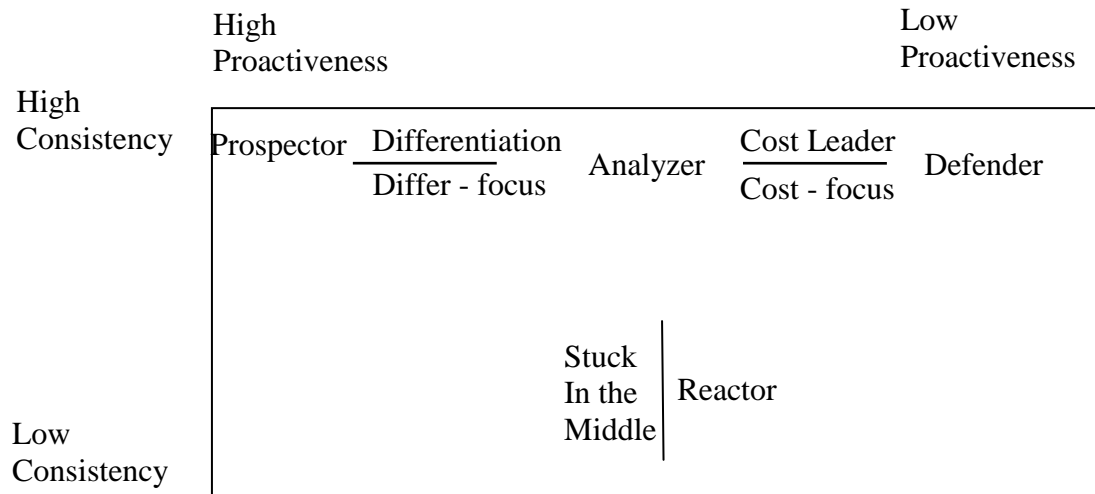


Figure 1: A combination of the Porter typology with the Miles and Snow typology (Segav, 1989)

Here, two dimensions are used. The first dimension is consistency (or level of performance). Porter's three strategies types are internally consistent but a firm that is 'stuck in the middle' is one failing to develop its strategy in at least one of the three directions and is in an extremely poor strategic situation (Porter, 1980). Miles and Snow's three strategies are internally consistent with strategy, structure and process. But, Reactor isn't included in three types and is inconsistent. Also, it makes the adjustment when environmental pressures are forced to do so (Miles and Snow, 1978). Generally, these 'Stuck in the Middle' and 'Reactor' show low performance. The second dimension is proactiveness. In this study, proactiveness level may be perceived as level of risk from a short-term point of view. Also, for strategic variables, production innovation and proactiveness of decision making are included.⁵ Prospector and Differentiation are high proactive. Defender and Cost leadership are low proactive. Analyzer is in the middle level. This position is not different from the definitions of two typologies. Generally, Prospector explores new product market opportunity. Differentiation emphasizes with the R& D for differentiated product or image. On the other hand, Cost leadership and Defender pursue efficiency

PREVIOUS STUDIES ON SUPPLIER RELATIONS

Literature review of supplier relations was done - *Strategic Management Journal* and *Journal of International Business Studies* (1980-2004). Generally, the topic is related to technology or manufacturing. Also, main topics are the following - product development, quality

management, selection of supplier and trust or knowledge sharing. Specifically, comparative study about Japanese (often Korea) and US is research stream. Japanese supplier relations are mainly studied.

PRODUCT DEVELOPMENT IN SUPPLIER RELATIONS

In the present study, product development is considered among various aspects in supplier relations. The ability to develop new products rapidly is an important source of competitive advantage in many industries (Dyer, 1996a). Specifically, in industries where product and technological change is high – auto and electronics, new product development or new model cycle time is more critical. In the Takeishi (2001)'s study on supplier relations in Japanese auto industry, the following contents are introduced. "A typical passenger car contains more than 30, 000 parts. Although original equipment manufacturers such as General Motors and Toyota assemble final vehicles, outside suppliers are often involved in design as well as manufacturing. Also, outside suppliers may account for 70 percent of manufacturing costs and 50 percent of engineering costs at some auto companies. This means that the competitiveness of an automobile producer is highly dependent on the capability of its suppliers and how effectively the producer manages the division of labor with these suppliers. Many studies in the past have shown that Japanese firms have had particularly efficient and effective supplier systems, and that these supplier networks have played a major role in the international competitiveness of the Japanese automobile industry. A critical element of Japanese practices is to involve suppliers, from the early stages, in the design of components for a new vehicle. Following Japanese practices, many non-Japanese automakers have forced the suppliers to be more involved in product development, thus shifting the responsibility of design and engineering to outside specialists." (Takeishi, 2001).

Actually, suppliers are involved in the various activities of product development (1) developing parts on their own as standard products (supplier - proprietary parts) (2) doing the detail engineering for parts based on functional specifications provided by automakers (3) producing parts developed by automakers according to the buyer's detail specifications (detail-controlled parts) (Cusumano and Takeishi, 1991). Finally, in high technological industries like auto industry, product development or new model development ability is important.

LINKAGE BETWEEN STRATEGIC TYPE AND SUPPLIER RELATIONS : DEMAND UNCERTAINTY

In the industry where technological change is high and new model cycle is shorter, like auto or electronics industry, demand uncertainty is generally higher. According to Wernerfelt and Karnani (1987), since strategy is concerned with the future, the strategic context of a firm is always uncertain, although different firms face differing degrees of uncertainty. As a first step to analyzing competitive strategy, a firm has to understand the sources of the uncertainty. Uncertainty can arise from four different types of sources in order of importance: demand structure, supply structure, competitors and externalities. They indicate the demand uncertainty as the first factor and present three demand uncertainties; the size of different market segments, the desired product design and appropriate distribution channels.

Harrigan (1988) indicates the effect of demand uncertainty and growth on joint venture formation. According to her study, when demand uncertainty is low, there are fewer joint

ventures. On the other hand, when demand uncertainty is high, there are more joint ventures. Specifically, when the demand is growing rapidly, there are many vertical joint ventures. The purposes are to pioneer markets, reduce supply bottlenecks and share supplying plant capacity until critical mass is reached. It also means that tight supplier relations (or supply chain) are necessary in that situation.

	Rapidly growing demand	Slowly growing, stagnant or declining demand
Demand Uncertainty is high	Many vertical joint ventures to Pioneer markets, reduce supply bottlenecks or share supplying plant capacity until critical mass is reached More Joint Ventures	Many horizontal joint ventures to consolidate domestic industry capacity and revitalize local players
Demand uncertainty is low	Many temporary non-equity sourcing agreements to satisfy component demand or reach more customers faster Fewer Joint Ventures	Few fade-out joint ventures between horizontal competitors as a gradual means of divesting

Figure 2: Effect of demand uncertainty and growth on joint venture formation, assuming firms will cooperate (Harrigan, 1988)

In conclusion, for demand uncertainty, when demand uncertainty is high and demand growth is high, high proactive strategy - Differentiation or Prospector buyer is likely to achieve more satisfaction with supplier relations. Also, low proactive strategy - Cost leadership or Defender buyer is likely to achieve less satisfaction. For other financial or product (quality) performance, this may be applied. Specifically, in the industry where technological change is high and new model cycle is shorter, this may be more applied. Therefore, the following hypotheses can be established.

Hypothesis 1 : Prospector buyer achieves higher performance when demand uncertainty is high and demand growth is rapid

Hypothesis 2 : Differentiation buyer achieves higher performance when demand uncertainty is high and demand growth is rapid

Hypothesis 3 : Defender buyer achieves lower performance when demand uncertainty is high and demand growth is rapid

Hypothesis 4 : Cost leadership buyer achieves lower performance when demand uncertainty is high and demand growth is rapid

IMPLICATION FOR RESEARCH

CHOICE OF INDUSTRY

In Porter(1980), various industries (or cases) were studied. But in Miles and Snow (1978), 4 industries - text book publishing, electronics, food processing and hospitals were studied. In this paper, because two typologies are studied, common industry is proper. So, electronics industry is proper. Specifically, in electronics industry, demand uncertainty and technological change are high. Also, compared to auto industry, because there are many buyer firms of large and small sizes, for this study in which variables in supplier relations are measured from buyer side, electronics industry is proper.

SAMPLING

In this study, sampling has a few issues and should be solved in the actual research. First, for electronics industry, because there are some subcategories - consumer electronics, semiconductor, computer and so on, the scope is necessary to be lessened to match the characteristic of study. For this purpose, SIC (Standard Industry Code) can be used. Second, data acquired from buyer side for the relation is used in this study. Because there are many suppliers for each buyer firm, it may be necessary to select the representative suppliers.

MEASURE AND QUESTIONNAIRE

In this study, for measure and questionnaire, ones in the previous studies are used. For Miles and Snow's typology, Snow and Hrebiniak (1980, p.336) is used. For Porter's typology, Govindarajan and Fisher (1990, p271-272) is used. For demand uncertainty and growth, Miles and Snow (1978) and Miller and Friesen (1983, p231-234) are modified and used. For this purpose, a pilot test is necessary. In this study, performance in supplier relations is measured as the buyer's satisfaction for supplier relations. Kale, Dyer and Singh (2002, p.767) is used. However, because Kale, Dyer and Singh (2002, p.767)'s measure was used for general alliance, this measure should be modified to reflect the characteristics of industry and supplier relations. Also, a pilot test is necessary.

CONCLUSION

As the technological change becomes more rapid, supplier relations are being recognized as important for sustainable competitive advantage. In this study, contrast to previous studies which focus on relational context, strategic context in supplier relations was theoretically assessed. When environmental variables such as demand uncertainty and demand growth are considered, strategic types of buyers in supplier relations can influence performance. This emphasis on strategic context in supplier relations can be contributable to the studies of supplier relations in the future research.

ENDNOTES

1. Porter's typology is introduced in Appendix 1

2. Miles and Snow's typology is introduced in Appendix 1
3. Adaptive cycle figure is attached in Appendix 2
4. (1) Uncertainty (2) Dynamism (3) Hostility (4) Complexity (5) Technological process (6) Product/market Breadth (7) Product innovation (8) Quality (9) Price level (10) Active marketing (11) Control system (12) Equity vs debt (13) Long-range financial strength (14) Resources level (15) Investment in production (16) No of Technologies (17) Professionalism (18) Internal analysis level (19) External analysis and forecasting (20) Level of risk (21) Proactive managerial level (22) Size of strategy-making team (23) Centralization (24) Mechanism (25) Profitability (26) Market size (27) Rate of growth (28) Operational efficiency (29) Liquidity (30) Organizational size (31) Organizational age
5. In this study, these strategic variables are defined as the following way. Level of risk is the extent to which strategy makers are willing to make commitments which involve many resources and risky projects. Product innovation is innovativeness in terms of the number and novelty of new products and customers. Proactiveness of decisions is the extent to which the firm tries to shape its environment, as opposed to merely reacting to trends in the environment (e.g. introducing new products, finding new markets and lobbying).

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APPENDIX 1

Porter’s typology from *Competitive Strategy* (1980)

Overall cost leadership

:The first strategy, an increasingly common one in the 1970s because of population of the experience curve concept, is to achieve overall cost leadership in an industry through a set of functional policies aimed at this basic objective.

Cost leadership requires aggressive construction of efficient - scale facilities, vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts, and cost minimization in areas like R & D, service, sales force, advertising, and so on. A great deal of managerial attention to cost control is necessary to achieve these aims. Low cost relative to competitors becomes the theme running through the entire strategy, through quality, service, and other areas cannot be ignored

Differentiation

: The second generic strategy is one of differentiating the product or service offering of the firm, creating something that is perceived industrywide as being unique. Approaches to differentiating can take many forms: design or brand image, technology, customer service, dealer network etc. Achieving differentiation may sometimes preclude gaining a high market share. It often requires a perception of exclusivity, which is incompatible with high market share. More commonly, however, achieving differentiation will imply a trade-off with cost position if the activities required in creating it are inherently costly, such as extensive research, product design, high quality materials, or intensive customer support.

Focus

: The final generic strategy is focusing on a particular buyer group, segment of the product line, or geographic market; as with differentiation, focus may take many forms. Although the low cost and differentiation strategies are aimed at achieving their objectives industry wide, the entire focus strategy is built around serving a particular target very well, and each functional policy is developed with this in mind

Miles and Snow's typology from *Organizational Strategy, Structure and Process* (1978)

Defender

Defenders are organizations which have narrow product-market domains. Top managers in this type of organization are highly expert in their organization's limited area of operation but do not tend to search outside of their domains for new opportunities. As a result of this narrow focus, these organizations seldom need to make major adjustments in their technology, structure, or methods of operation. Instead, they devote primary attention to improving the efficiency of their existing operations

Prospector

Prospectors are organizations which almost continually search for market opportunities, and they regularly experiment with potential responses to emerging environmental trends. Thus, these organizations often are the creators of change and uncertainty to which their competitors must respond. However, because of their strong concern for product and market innovation, these organizations usually are not completely efficient

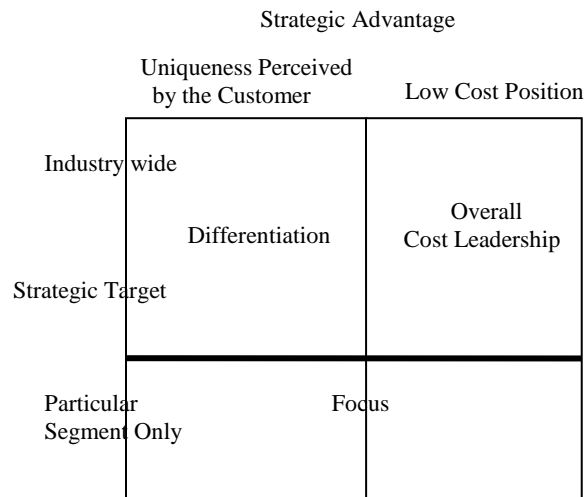
Analyzer

Analyzers are organizations which operate in two types of product-market domains, one relatively stable, the other changing. In their stable areas, these organizations operate routinely and efficiently through use of formalized structures and processes. In their more turbulent areas, top managers watch their competitors closely for new ideas, and then they rapidly adopt those which appear to be the most promising

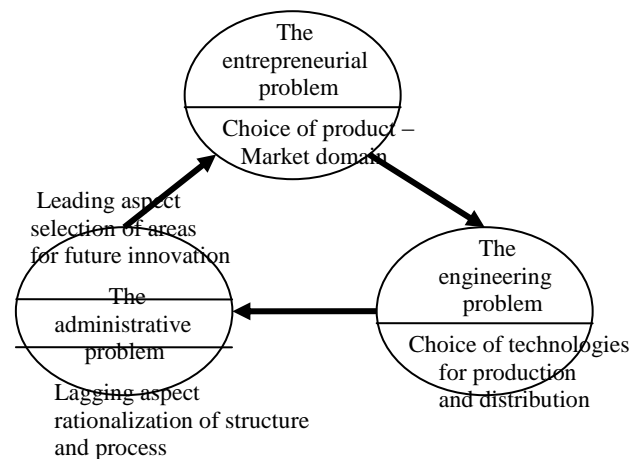
Reactor

Reactors are organizations in which top managers frequently perceive change and uncertainty occurring in their organizational environments but are unable to respond effectively. Because this type of organization lacks a consistent strategy-structure relationship, it seldom makes adjustment of any sort until forced to do so by environmental pressures

APPENDIX 2



Three generic strategies and forces driving industry competition from *Competitive Strategy* (1980)



Adaptive Cycle from *Organizational Strategy, Structure and Process* (1978)