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**DESIGN AND EVALUATION OF A GENERAL
ALLIANCE MODEL: AN EXAMINATION OF LOGISTICAL
ALLIANCES BETWEEN MANUFACTURERS AND MATERIAL SUPPLIERS**

By

Judith M. Schmitz

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ABSTRACT

DESIGN AND EVALUATION OF A GENERAL ALLIANCE MODEL: AN EXAMINATION OF LOGISTICAL ALLIANCES BETWEEN MANUFACTURERS AND MATERIAL SUPPLIERS

By

Judith M. Schmitz

Alliances position firms to achieve some benefits of vertical integration while limiting financial risk and ownership. While alliances offer an attractive business opportunity, most managers lack the understanding and experience to explicitly formulate and maintain alliances. As a result, an implementation gap exists where managers feel alliances are an important alternative to traditional adversarial relationships, but do not have proven guidelines for forming and maintaining alliances. The goal of this research was to develop, refine and evaluate a general alliance model for managerial use and academic research. The model helps to bridge the implementation gap by constructing a framework to guide alliance creation, implementation, maintenance and continuity. The model also includes an assessment to determine whether alliances should be sustained, modified or terminated.

The research identified five stages of alliance development. These stages were combined with strategic and operational components of alliance success. The strategic component was an extension of Bucklin and Sengupta's (1992 and 1993) measure of alliance effectiveness. The operational

component was an extension of research conducted by Bowersox et. al. (1990 and 1992) that examined attributes of successful alliances. This combination of the five stages and strategic and operational components facilitated a dynamic understanding of alliance progression.

The model was evaluated through three dyadic case studies focusing on logistical alliances between manufacturers and material suppliers in the grocery industry. The case evidence relied primarily on extensive informant interviews. The interviews were conducted with multiple management informants at various organizational levels within each participating firm (e.g., executives, middle managers and managers with operational responsibility). Informants' perceptions were compared across partnering firms and organizational levels. Case evidence was also generated through questionnaires, company documents and observed practice.

Principal findings support the general alliance model as a meaningful conceptual and managerial framework. Managerial guidelines are summarized concerning alliance initiation, implementation and continued vitality. Concluding observations are provided that focus on (1) the model as a framework for alliance development; (2) the growing importance of alliances; (3) the need for formalized procedures and performance measurement; (4) the role of information technology; (5) the significance of trust; and (6) the importance of establishing a united front.

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CHAPTER I

INTRODUCTION

Traditional business practices are being challenged by events changing the structure of today's business environment. One event making a significant impact on the business environment is globalization. While providing an opportunity for growth, globalization also causes firms to focus on improving supply chain efficiency and effectiveness in order to compete in a world market. Firms are examining alternative sourcing arrangements, new production and market locations and various logistical channel structures.

Other forces causing modification of traditional practices are industry consolidation, changing consumer demographics, lifestyles and demand patterns, the shift in power from manufacturers to retailers and development of alternative distribution and retail formats. These forces combine to create a highly competitive and diverse business environment. Leading edge firms are able to achieve competitive advantage in this new environment by developing and implementing innovative operational solutions. One such innovation centers around the way firms procure and integrate materials and services.

Traditionally, strategic procurement was limited to two alternatives: make internally (vertical integration) or purchase externally (outsource). These

two extremes were seen as trade-offs based on the relative benefits and drawbacks of each strategic option. Rather than treating these options as mutually exclusive alternatives, leading edge firms have begun to combine the strengths of each by implementing a third alternative -- the strategic alliance. Essentially, strategic alliances position firms to achieve the benefits of vertical integration *without assuming the responsibility of ownership*.

Strategic alliances transcend traditional organizational boundaries allowing buying and selling firms to integrate interorganizational processes and resources. These processes and resources are maintained through internal control (typically associated with vertical integration) coupled with expanded external relationships (outsourcing). The firms engaged in an alliance have joint "ownership" of the logistical processes and resources such that costs and benefits are shared. These joint resources improve supply chain efficiency and effectiveness by eliminating waste and duplication throughout the channel.

While vertical integration without ownership via the strategic alliance is an interesting theoretical concept, in practice, firms lack the methods to explicitly guide alliance formation and maintenance. The focus of this dissertation is to develop, evaluate and refine a general alliance model. The objective of developing a general alliance model is to help managers evaluate the desirability of establishing a logistical alliance. Once it is determined this type of alliance arrangement is desirable, the general model will aid in alliance formation and help reduce the risk associated with such development. The model will also provide a feedback mechanism to facilitate alliance evaluation

and long term maintenance. Thus, the model can serve to bridge the gap between theory and practice. Further, the model will examine key characteristics that facilitate or constrain alliance success. Finally, the model will illustrate strategic expectations and effectiveness as well as operational criteria and standards that parallel alliance formation and maintenance stages.

BACKGROUND

Much has been written in academic and practitioner literature about strategic alliances in general. Many different names are used to describe the concept such as value-adding partnerships (Johnston and Lawrence 1988), relational exchange (Dwyer, Schurr and Oh 1987; Morgan and Hunt 1994), Just-in-Time exchange (Frazier, Spekman and O'Neal 1988; O'Neal 1989), networks (Miles and Snow 1986; Thorelli 1986) and partnerships (Anderson and Narus 1990; Sonnenberg 1992). These definitions and names arrive at essentially the same conclusions. This dissertation will utilize the following definition of an alliance:

An alliance reflects a willingness of participants to modify their basic business practices to reduce duplication and waste while facilitating improved performance. Participants may include material suppliers, manufacturers, retailers/wholesalers and/or service suppliers.¹

This definition has evolved through best practice research conducted at Michigan State University. The early definition focused on a business

¹ This definition was developed by Dr. Donald J. Bowersox at Michigan State University and was included in a baseline survey instrument described later in this chapter and utilized in this dissertation.

relationship where parties worked closely together toward specific objectives (Bowersox et. al. 1989). This research was enhanced in later work through a detailed assessment of the perceived benefits of cooperative as opposed to adversarial business relationships.

In terms of logistical alliances, this dissertation will use the following definition of logistics:

Logistics is the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements.²

In this sense, logistical alliances focus on partners' willingness to modify their logistical processes for movement and storage of products, services and information to increase efficiency and effectiveness and improve overall channel performance. The benefits of a logistical alliance include cost reduction, joint synergy and planning, improved customer service, decreased risk, increased creativity and the potential to gain competitive advantage (Bowersox et. al. 1992). These benefits improve overall performance since alliance partners work together to reduce waste and duplication. Bowersox et. al. (1992) concluded that the benefits are realized when partners concentrate on core competencies, share critical information and work as a team to solve problems and make continuous improvements.

In order for an alliance to provide these benefits, partners must have compatible goals and management philosophies, share key information and

² This definition was adopted by the Council of Logistics Management and is meant to include inbound, outbound, internal and external movement as well as reverse logistics.

have clearly defined responsibilities and operating procedures, including a provision for alliance termination (Bowersox et. al 1992). Alliance partners must also coordinate logistical functions and activities to achieve integrated operations. Internal integration and information sharing are important for achieving external integration and effective communication. Kanter (1994) stated that companies with strong internal integration, who share information across functions, are more likely to have successful external relationships.

Heide and John (1990) discussed joint action as occurring when parties manage key functions in a cooperative manner such that integration supersedes organizational boundaries. This joint action shifts the focus of the relationship away from a price orientation for short term transactions toward long term mutual benefit (Dwyer, Schurr and Oh 1987; Frazier, Spekman and O'Neal 1988; Bowersox et. al. 1992). Ohmae (1989) also discussed the critical need for mutual benefit in order for an alliance to operate successfully. The movement away from transactions toward relationships allows trust and stability to develop.

Based on the above discussion, a few conclusions can be made concerning the characteristics of a general logistical alliance. These statements are summarized in Table 1.1.

Logistical alliances are facilitated in today's business environment by three factors. First, advances in information technology permit real-time, accurate information exchange. Information technology, such as satellite communication, Electronic Data Interchange (EDI) and barcodes, serves as the

enabler of logistical alliance formation (Schmitz, Frankel and Frayer 1993). It is critical to note though that EDI (as well as other information technologies) itself is "not a sufficient condition" in logistical alliances (Bowersox et. al. 1992). This statement illustrates the difference between sharing data and sharing information. Alliance partners may have EDI capability and may transfer data quickly, but if this data is not used strategically to provide critical information and to benefit both parties, the alliance will not reach its full potential.

Table 1.1
Logistical Alliance Characteristics

- Alliances are relational, not transactional.
- Alliances focus on long-term mutual goals, not short-term price advantages.
- Alliance partners move beyond traditional adversarial roles to concentrate on developing a cooperative business posture that instills trust between partners.
- Alliance partners eliminate waste and duplicative effort throughout the channel by managing the overall exchange of materials and services as an integrative team. This is accomplished in part by sharing critical information and extensively measuring total system performance.

Second, the political and legal environment within the United States supports logistical alliance formation (Bowersox et. al. 1992). Specifically, two key pieces of legislation permit development of cooperative arrangements. The first such legislation was the National Cooperative Research Act of 1984 (Public Law 98-462). This Act was developed to encourage joint research up

to the point of prototype design under a relaxed antitrust environment. The second legislative effort was an expansion of the original 1984 Act. The National Cooperative Production Amendments of 1993 (Public Law 103-42) allowed cooperative arrangements to include prototype development and testing as well as provide an atmosphere of even greater antitrust relaxation across a wider range of coverage and reduced fear of antitrust liability. While these Acts may appear to legitimize cooperation of manufacturers for new product development alone, the Acts created an environment where cooperation is seen as an aid, not hinderance, to competition. This shift in governmental ideology is reflected and accepted in business practices, regardless of channel position or the specific focus of the alliance.

Third, logistics is an appropriate facilitator for alliances since logistics coordinates cross-organizational activities "through a system of links and nodes to convey requirements as well as reconcile channel differences" (Schmitz, Frankel and Frayer 1993). Logistics enables systems integration by controlling both physical and informational flows up and down the channel. In other words, logistics serves as the boundary spanning agent between alliance partners through which systems integration occurs.

UNIQUE FOCUS ON MANUFACTURERS-MATERIAL SUPPLIERS

As will be discussed in the section on research scope, this dissertation will focus specifically on logistical alliances that develop between manufacturers and material suppliers in the grocery industry. The reason for

this scope is to uncover unique aspects of logistical alliances between manufacturers and material suppliers given that many characteristics are assumed common to all forms of logistical alliances regardless of channel position. The unique dimension of this dissertation is drawn from three key forces affecting the relationship between manufacturers and material suppliers: procurement costs; quality; and Just-In-Time. It is important to note that the term material suppliers refers to all forms of suppliers (e.g., raw material, material, commodity and component part suppliers) These change agents are competitive factors that placed buyer-seller relationships at an important strategic level in manufacturing organizations. Monczka and Trent (1991) discuss how purchasing strategies can be, but were not historically, viewed as a source of competitive advantage. This shift in the strategic importance of purchasing began in the mid-1970s as purchasing managers were elevated to executive levels (Ansari and Modarress 1990) due to the oil embargo and major material shortages.

PROCUREMENT COSTS

The first agent for change was the realization that reductions in procurement costs provided a significant opportunity for competitive advantage. Acquiring materials and services from external sources requires a large portion of total cost expenditures for manufacturers, making the relationship between manufacturers and material suppliers strategically important. While the exact cost figures vary by industry, many authors provide

estimates. For example, Leenders and Blenkhorn (1988) state that for North American manufacturers, the average allocation for purchased materials and services is over 60 percent of total revenue. Hutchins (1992) estimates that 50 to 80 percent of a firm's manufacturing budget is spent on acquired materials and services. Burt and Doyle (1993) have a similar estimate at 60 percent or more of the cost of goods sold. Regardless of the cost formulas used, most authors agree purchasing costs for outsourced materials and services is one of, if not the, largest costs for manufacturers.

Given the significance to the bottom line, it is logical that with increased global competition and economic recessions that have occurred over the last decade, compounded by the fact that cost of goods sold increased, productivity decreased, and interest rates rose (Yoo, 1989), manufacturers were searching extensively for ways to reduce total costs. Hence, top management began to focus on procurement as a prime area for cost reduction. This is not surprising, given that Leenders and Blenkhorn (1988) estimate the average manufacturer can increase profits by 30 to 50 percent with a five percent decrease in procurement costs.

Alliances provide a potential opportunity for achieving direct and indirect reductions in procurement costs. Cost savings may be direct in terms of piece price reductions. For example, if an alliance is formed with a sole source from adversarial relations with multiple sources, the sole source will see an increase in purchasing volume. This increase may provide immediate piece price reductions based on quantity discount pricing structures. Hendrick and Ellram

(1993) found evidence of the direct cost savings in a 1991 study of buying firms and their chosen alliance suppliers. In this study, parties in an alliance perceived that the prices they paid for the associated materials were competitive and provided a significant advantage. Half the respondents indicated the current price was less than the market price. Indirect cost reductions should also materialize from manufacturing "user" areas such that improvements in the quality of purchased materials, increased productivity and reduced inventory levels will translate into reduced costs throughout the organization (Leenders and Blenkhorn 1988).

QUALITY

In the 1980s, many United States manufacturers were faced with a serious quality problem. Consumers perceived most products made in the United States had inadequate quality levels, especially in comparison to foreign competitors (mainly the Japanese). Poor quality resulted from many different factors. Reitsperger, Daniel and El-Shaieb (1990) stated that one reason for inferior quality was that American manufacturers accepted defects in purchased materials. Mishne (1988) and Garvin (1983) discussed how poor quality was a result of the inability for United States manufacturers to understand the cost of poor quality. Poor quality can result in repair, rework, and scrap costs, product failures, warranty costs and lost sales (Garvin 1983; Mishne 1988). Mishne (1988) estimated that an average manufacturer spent 20 to 25 percent of its operating budget on "finding and fixing mistakes" and that 25 percent of

production employees were dedicated to performing rework and repair operations, not first time production. When executives were asked to estimate quality costs, their perceptions were extremely low with four percent of the respondents believing the cost of poor quality was less than five percent of gross sales (Mishne 1988).

United States manufacturers became increasingly aware that they needed to make vast quality improvements to remain competitive both at home and abroad, and, as a result, a quality revolution began. This quality revolution was led by many quality experts; perhaps the most well known were W. Edwards Deming, Joseph M. Juran and Philip B. Crosby.³ The two main messages from these quality experts were that (1) quality is increased when variation around tolerances or specifications is decreased; and (2) quality cannot be inspected into a product, it must be designed in.

Perhaps more important to the quality revolution than the teachings of quality experts were the success stories of United States manufacturers, such as Xerox, Motorola and Hewlett-Packard to name a few. The mention of these companies, as well as other quality-oriented manufacturers, instantly instills a quality perception in the minds of many consumers today. However, each of these companies struggled at one time to find ways to improve their quality or face extinction. These companies led the way for many United States

³ For more information on these authors, see W. Edwards Deming (1982), *Quality, Productivity, and Competitive Position*. Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study; Mary Walton (1986), *The Deming Management Method*. New York: Dodd, Mead, Inc.; Joseph M. Juran (1988), *Juran on Planning for Quality*. New York: The Free Press; and Philip B. Crosby (1979), *Quality is Free*. New York: McGraw-Hill, Inc.

executives to believe massive quality improvements were possible for their companies as well. In fact, Motorola was so intrigued with its quality improvements, that the company formed Motorola University in an effort to train its suppliers about quality (Webb 1991).

Another strong motivator for the quality revolution was the development of the Malcolm Baldrige National Quality Award. The United States Congress created this award in 1987 to "recognize U.S. companies that excel in quality management and quality achievement" as discussed in the 1994 Award Criteria. Bush and Dooley (1989) compare the Baldrige Award to the Deming Prize, which was developed by the Union of Japanese Scientists and Engineers in 1951. The authors state the Baldrige Award is a "positive step... toward regaining global competitive advantage."

The quality revolution highlighted purchasing's role as a contributor to quality. Executives and purchasing managers began to realize that inbound quality problems have a compounding effect on manufacturing (Newman 1988) and the lowest piece price does not automatically equate to the lowest total cost (Burt 1989). This enabled manufacturers to look externally as well as internally to solve quality problems.

Alliances play a major role in quality improvement programs. First, if an objective of quality is reduced variation, the use of multiple sources, which are added and deleted based on piece price alone, is a contradictory strategy. In other words, sole (or reduced) sourcing, which often coincides with alliance formation, will reduce inbound supply variance by reducing population variance.

Churchill (1991) states, "the larger the population, the greater the potential for variance of the characteristic." In this case, the greater the number of suppliers for the same material, the greater the potential for variance in that material's quality or adherence to design specifications.

Second, if quality is designed into a manufactured product, then quality should also be designed into that product's sub-assemblies and materials. Newman (1988), Burt (1989), Reitsperger, Daniel and El-Shaieb (1990) and Demmy and Petrini (1992) stress early supplier involvement in design is critical to maintaining acceptable quality in finished goods. One way to achieve this level of quality is to develop long term cooperative relationships, such as alliances, with suppliers (Hale, Hoelscher and Kowal 1987; Lascelles and Dale 1989; Reitsperger, Daniel and El-Shaieb 1990; Hutchinson 1992; Burt and Doyle 1993). Early supplier involvement is critical given Sandras' (1989) estimate that "once the first 15 percent of a new product's design effort has been completed, 85 percent of the costs are committed" and future product problems are already "predetermined." In fact, one of the core values of the Baldrige Award is external alliance development with "customers, suppliers, and educational organizations" and the 1994 Award Criteria assign direct points to issues involving supplier quality.

JUST-IN-TIME

The final dimension that encouraged a shift from adversarial to cooperative relations between manufacturers and material suppliers was the

effort to match efficiency and low cost production of many Japanese firms. Firms in the United States began to adopt a Japanese materials management philosophy called Just-In-Time (JIT). JIT focuses on reducing material and work-in-process (WIP) inventories while eliminating waste and manufacturing bottlenecks (Schonberger 1982; Hahn, Pinto and Bragg 1983; Schonberger and Ansari 1984; Yoo 1989; Oliver 1990; Demmy and Petrini 1992). Waste, as described by Sandras (1989), is any activity that does not provide direct value to the customer such as "excess inventory, setup times, inspection, material movement, transactions, or rejects."

JIT is facilitated by buying materials and component parts in very small quantities and scheduling delivery at the precise time they are needed on the manufacturer's assembly line. The main benefit of JIT is inventory reduction. In fact, Hahn, Pinto and Bragg (1983) discuss how the ideal state of JIT is a "stockless" production system. Demmy and Petrini (1992) explain this main benefit enables secondary benefits to occur. The authors discuss that under JIT, inventory is seen as an evil that is used to hide problems in scheduling, manufacturer and supplier quality, and poor training. The JIT company uncovers and solves these problems when inventories are reduced (Oliver 1990; Demmy and Petrini 1992). Thus, additional benefits are discovered such as improved quality, less rework and scrap, fewer defects, reduced leadtimes and obsolescence, increased productivity, reduced manufacturing overhead, less required storage space and increased competitive advantage (Schonberger 1982; Schonberger and Ansari 1984; Yoo 1989; Ansari and Modarress 1990).

Schonberger and Ansari (1984) state that in order to effectively manage in a JIT environment, suppliers must be able to provide high quality materials on a long term basis such that incoming inspection is eliminated and informal value analysis, not annual competitive bidding, is used to maintain a competitive price. Hahn, Kim and Kim (1986) discuss how key characteristics of JIT, such as single sourcing, long term contracts, reduced/eliminated formal competitive bidding and close working relationships, are contradictory to traditional adversarial relationships between United States manufacturers and material suppliers. While a logistical alliance and a JIT philosophy can be operated independently (i.e., one strategy does not require the other in order to be effective), these two concepts are definitely supportive of each other and require some of the same key attributes in order to achieve operating success.

THE BUSINESS CHALLENGE

While few question that logistical alliances can become an important business alternative that is theoretically possible, practical guidelines to facilitate alliance formation and maintenance are lacking. The current knowledge base on strategic alliances is promotional and anecdotal at best. Alliance characteristics, as shown in Table 1.1, are available as "tips" for success such as "develop win-win solutions." However, these insights fail to *operationalize* how alliances are created, administered and maintained. A substantial gap exists in the alliance knowledge base supporting a clear need for in-depth research on alliance formation and maintenance. As a foundation

for this in-depth research, it is important to understand the current state of logistical alliances. The next section will discuss results of empirical research which positions logistical alliance activity for further, in-depth research.

CURRENT STATE OF LOGISTICAL ALLIANCE FORMATION

A baseline survey was conducted at Michigan State University to assess the current state of best logistics practice throughout various industries. Logistical alliances were one focus area of best logistics practice included in the survey instrument. The questionnaire was mailed to members of the Council of Logistics Management in May 1993. The mailing was limited to members located within the United States and excluded members identified as educators and publishers/editors. Of the 6010 surveys mailed, 1224 usable responses were received representing a 20.4 percent response rate. The response base consisted of 657 manufacturers, 156 merchandisers, 208 logistical service companies (e.g., carriers, warehousers and integrated service providers) and 203 others (e.g., consultants, government/military, general services, etc...).

This questionnaire replicates and extends research on leading edge logistics practices conducted at Michigan State University in 1985. Two books review the original research findings. They are (1) Bowersox, Donald J., Patricia J. Daugherty, Cornelia L. Dröge, Dale S. Rogers and Daniel L. Wardlow (1989), *Leading Edge Logistics: Competitive Positioning for the 1990's*. Oak Brook, IL: Council of Logistics Management; and (2) Bowersox, Donald J., Patricia J. Daugherty, Cornelia L. Dröge, Richard N. Germain and Dale S. Rogers

(1992), *Logistical Excellence: It's Not Business as Usual*. Burlington, MA: Digital Press.

The 1993 questionnaire was designed for two purposes. First, to gain insight into professional opinions regarding current and future **industry wide** trends shown in the 1985 study to be critical for best practice logistics. Second, to gain greater understanding of the logistics-related business practices of manufacturing and merchandising (e.g., retailers and wholesalers) respondents to indicate the current level of best practice. As such, the research provided an understanding of general as well as specific knowledge and activity concerning various best logistics practice attributes.

The alliance sections of the questionnaire were designed to answer three position statements pertinent to this dissertation:

- 1) Do manufacturers believe logistical alliances are an important business alternative?
- 2) What motivates manufacturers to form logistical alliances?
- 3) Do manufacturers have guidelines for creating and maintaining logistical alliances?

The remaining portion of this section highlights research findings as they relate to each position statement. Results are specific to manufacturers unless otherwise stated.

LOGISTICAL ALLIANCES AS A BUSINESS ALTERNATIVE

The findings determine that respondents believe logistical alliances are an important business alternative. This is supported in numerous ways. First,

respondents were provided a list of ten topics and asked to consider each as a focus of a major research initiative. The mean response for alliances ranked third overall behind information technology and performance measurement (see Table 1.2). This ranking demonstrates that alliances are paramount in terms of importance to manufacturers.

Table 1.2
Research Topics by Importance

<u>Topic</u>	<u>Overall Mean</u>
Information Technology	1.56
Performance Measurement	1.71
Alliances - Relationship Management	1.87
Tailored Distribution Strategies	1.91
Inventory Deployment	1.95
Logistics Network Redesign	2.00
Time Based Logistics Strategies	2.11
Globalization	2.13
Environmental Issues	2.41
Organization Structure	2.44

Scale: 1 = Very Important; 5 = Not Important at All

Second, manufacturers were asked if they perceive logistical alliances as tactics through which powerful partners gain more control or shift inventory responsibility. Conclusions reported in Table 1.3 verify that alliances are not viewed as a means to exploit others in the supply chain. Based on these responses, it is concluded that logistical alliances are not perceived by manufacturers as short term manipulative business maneuvers. Alliances represent acceptable and potentially attractive business practices.

Table 1.3
Logistical Alliance Viability

	<u>Mean</u>	<u>N</u>
Logistical alliances are more lip service than reality	3.49	657
Logistical alliances are thinly disguised ways for the powerful partner to shift inventory responsibility	3.30	655
Logistical alliances are thinly disguised ways for the powerful partner to maintain power/control	3.62	656

Scale: 1 = Strongly Agree; 3 = Neutral; 5 = Strongly Disagree

Participants were asked if logistical alliances are more common today than five years ago in order to determine current and future alliance development. Table 1.4 concludes that logistical alliances are more common at all channel levels.

These results provide face validity for the proposition that vertical integration without ownership is theoretically possible and provides an actual business solution used at all channel levels. Table 1.4 ascertains that logistical alliances offer opportunities for all channel participants. This conclusion is supported by research on best logistics practice that discovered leading edge firms, operating at different channel levels, were not significantly different in their performance of ten best practice attributes (Bowersox et. al. 1989). One of these ten attributes was a commitment to developing logistical alliances.

Conclusions from Table 1.4 also highlight that logistical alliances are not seen as a temporary management arrangement. It was not perceived that

Table 1.4
Logistical Alliance Status

	<u>Mean</u>	<u>N</u>
Logistical alliances are more common today than five years ago with <u>material suppliers</u>	2.06	653
Logistical alliances are more common today than five years ago with <u>service suppliers</u>	2.13	655
Logistical alliances are more common today than five years ago with <u>customers</u>	1.97	656
Interest in forming alliances decreased during the recession of the early 1990s	3.47	652

Scale: 1 = Strongly Agree; 3 = Neutral; 5 = Strongly Disagree

alliances decreased during the recessions of the early 1990s. If alliances were temporary management trends, it is reasonable that businesses would have limited such activity during a recessionary period. It was perceived by manufacturers that interest in alliances actually increased during this period.

In summary, logistical alliances are important to manufacturers and are viewed as viable business alternatives. This is demonstrated by the fact that logistical alliances are an important research focus (Table 1.2), are not seen as short term tactics to gain control (Table 1.3) and have increased at all channel levels in today's business environment (Table 1.4). These results support the anecdotal literature on alliances and confirm the current knowledge base.

LOGISTICAL ALLIANCE FORMATION MOTIVATION

One question examined the motives for establishing a logistical alliance. Respondents were given a listing of ten motives, prevalent in the literature and previously researched, and asked to indicate their importance as a reason for developing a logistical alliance. The mean scores for each of the ten motives are summarized and ranked in Table 1.5.

Table 1.5
Logistical Alliance Formation Motives

<u>Motive</u>	<u>Overall Mean</u>
Competitive Advantage	1.65
Improved Quality	1.83
Leadtime Performance Improvement	1.87
Inventory Reduction	1.93
Increased Customer Involvement	2.02
Supply/Demand Stability	2.17
Exploiting Core Competency	2.21
Technological Access	2.24
Market Access/Globalization	2.39
Leveraging Capital	2.45

Scale: 1 = Very Important; 5 = Not Important at All

Table 1.6 summarizes the scales extracted from the list of alliance formation motives via principal components factor analysis using the manufacturers' responses about the importance of each motive. Factor analysis was performed on these items to determine if common underlying constructs or dimensions existed among the motives. This form of analysis

Table 1.6
Principal Components Factor Analysis of Logistical Alliance Motives

<u>Scales and Items</u>	<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>	<u>Factor 4</u>
Joint Opportunity Benefits				
Leveraging Capital	.5633	.3642	-.3879	.2845
Market Access/Globalization	.6625	-.0296	.0619	.3310
Supply/Demand Stability	.6123	.2920	.1799	-.2469
Technological Access	.6564	.1047	.3819	.0128
Operational Benefits				
Inventory Reduction	.0908	.8195	.1129	-.1089
Leadtime Performance	.1498	.6719	.1308	.1512
Tactical Benefits				
Customer Involvement	.2906	.0134	.7051	.1031
Improved Quality	.0185	.2887	.7636	.0852
Strategic Benefits				
Competitive Advantage	-.1121	.2971	.1565	.7336
Exploiting Core Competency	.2576	-.1817	.0307	.6883
Eigenvalue	2.6515	1.3017	1.1236	1.0213
Coefficient Alpha	.4415	.4851	.4767	.5854
N = 653				

* Solution after Varimax Rotation with 10 Variables

simplifies complex relationships among variables by examining the underlying structure of the data (Dillon and Goldstein 1984) for the purpose of "substantive interpretation" (Churchill 1991). The four dimensions of motives for manufacturers represent joint opportunity, operational, tactical and strategic benefits.

Joint opportunity benefits indicate motives where the manufacturer needs the resources of another, and vice versa, in order for the benefit to be realized. A manufacturer who enters into a logistical alliance in order to gain technological access will look for a partner who has a developed presence in that target technology. For example, an automotive manufacturer may search for a material supplier who has developed air conditioners that operate without R-12 freon due to environmental considerations. An alliance with such a supplier would enable the manufacturer to concentrate on developing other technologies.

Operational benefits illustrate measurable day-to-day activities that the partners expect to improve due to the logistical alliance. Leadtime performance, for example, is measurable for every order cycle so improvement can be tracked.

Tactical benefits are less tangible activities while strategic benefits are activities at a macro level that are difficult to measure. An example of a tactical benefit is greater customer involvement. Some aspects of this motive, such as number of visits to the customer's location, are measurable, but it is much more difficult to measure the impact of each visit. An alliance may

facilitate more frequent and open visitation. Strategic benefits, such as gaining competitive advantage, are even less tangible, but are likely to be a factor in forming an alliance.

Coefficient alphas range from .4115 for joint opportunity benefits to .5854 for strategic benefits. These values are below the .70 criteria suggested by Nunnally (1978). The lower alpha values result from either a deficient list of motives or motives with little in common. The Pearson Correlation Coefficients for the motives range from .1007 (operational and strategic benefits) to .3509 (operational and joint benefits) suggesting that the modest coefficient alphas are due to a lower level of commonality (correlation) among the motives, not a deficient list of motives. As such, the internal consistency of the factors is moderate, but acceptable, and should not be of great concern given the nascent state of research on logistical alliances.

Another element in the literature shown to influence alliance formation is uncertainty. While the list of motives indirectly examines some forms of uncertainty, such as supply/demand, another form of uncertainty is channel power. Channel power can be defined as "the capacity of a particular channel member to control or influence behavior of another channel member(s)" (Rosenbloom 1983). In 1967, Mallen discussed that the leader or controller of the channel is the powerholder, and stated, "the wholesaler was the leader in the last century, the manufacturer now, and it appears that the mass retailer is next in line." A shift in power to retailers would create a sense of uncertainty within the manufacturing segment. Participants were asked if they

believed channel power has shifted from manufacturers to retailers. The mean score was 2.32 (N = 650) verifying some agreement among manufacturers that their power base is decreasing.

Beier and Stern (1969) hypothesized that weaker channel members would attempt to use countervailing power to balance the relationship. Galbraith's (1967) work on countervailing power suggested one way to offset power is to substitute competition within the channel by vertical integration. However, in today's environment, vertical integration without ownership investment and risk is possible by forming alliances. As such, the shift in power from manufacturers to retailers may be one reason manufacturers seek alliances with material suppliers in an attempt to develop countervailing power.

In conclusion, the questionnaire assessed ten motives for alliance formation and gauged the importance of each motive. Four underlying constructs that interpret the manufacturers' overall benefits of these motives were developed. Further, the survey indicated agreement that Mallen's (1967) hypothesis of a shift in power to retailers is occurring. This shift may drive alliance formation in the manufacturing segment as a way to balance power within the channel.

LOGISTICAL ALLIANCE FORMATION AND MAINTENANCE

While manufacturers believe logistical alliances are an important business alternative, it can be concluded that manufacturers are not making significant progress in alliance formation. Manufacturers have not developed clear

guidelines for extending alliance activities (Table 1.7). Based on the frequency of responses, it can be concluded that only one in five manufacturing firms has clear guidelines for creating or monitoring alliances. This conclusion illustrates the implementation gap between theory and practice. While the anecdotal evidence verifies logistical alliances are important to manufacturers, actual practice questions the ability to develop alliances. Clearly there is a need for operationalizing alliance progression.

Table 1.7
Actual Alliance Development

	<u>Mean</u>	<u>N</u>
<u>Actual Data</u>		
My firm has clear guidelines and procedures for creating alliances	3.23	654
My firm has clear guidelines and procedures for monitoring alliances	3.24	653

Scale: 1 = Strongly Agree; 3 = Neutral; 5 = Strongly Disagree

Other issues related to alliance formation and maintenance commonly addressed in alliance literature are the need for a formal contract, the necessity to limit the number of alliances formed, the ability to eliminate competitive bidding for alliance partners and the required sharing of rewards and risks between alliance participants. Table 1.8 summarizes questions pertaining to these issues.

Table 1.8
Logistical Alliance Formation Issues

	<u>Mean</u>	<u>N</u>
<u>Perceptual Data</u>		
An effective logistical alliance must be supported by a written contract or agreement		
Manufacturers	2.84	656
Merchandisers	3.12	155
	(t = 8.78; p = .0031)	
A firm can be effectively involved in only a limited number of logistics alliances		
Manufacturers	2.49	657
Merchandisers	2.76	155
	(t = 8.82; p = .0031)	
Having an alliance is not compatible with requiring a bidding process		
	3.31	656
<u>Actual Data</u>		
My firm requires a written contract or agreement to be an integral part of all alliances		
Manufacturers	3.02	650
Merchandisers	3.28	154
	(t = 8.47; p = .0037)	
My firm has established logistics alliances that operate under the principles of shared rewards and risks		
	2.84	650

Scale: 1 = Strongly Agree; 3 = Neutral; 5 = Strongly Disagree

The literature on alliances suggests long term, formal agreements enable factors such as trust to develop. Dobler, Burt and Lee (1990) state that long term agreements provide stability such that the supplier can make investments to improve material offerings to the manufacturer. In the case of a logistical alliance, a long term agreement encourages both the buyer and supplier to take a significant interest in the relationship.

One way to achieve a long term agreement is through a written contract or agreement. Bucklin and Sengupta (1992 and 1993) discussed the benefit of a contract is the "opportunity to design desired patterns of partner behavior and to extract penalties from failures to perform." The results are somewhat contradictory on this point since manufacturers are neutral concerning the necessity of written contracts or agreements (Table 1.8). Further, the mean score for manufacturers is significantly different than the mean score for merchandisers. This mixed perception and significant difference was also supported when the respondents were questioned about their actual practice.

These results conclude that written contractual arrangements may not play a critical role in alliances. Logistical alliances at all channel levels may operate successfully without formal written agreements. In fact, Young and Wilkinson (1989) found "written agreements tended to produce more conflict than did unwritten ones." Larson (1992) concluded that firms in alliance relationships discounted the use of written contracts and concentrated more on the development of "informal and implicit social contracts." This may be true especially with alliances where merchandisers are involved. It also may

represent a potential problem affecting alliance success between manufacturers and merchandisers.

When the questionnaire was constructed, it was hypothesized that respondents at all channel levels would strongly agree that involvement should be limited to a small number of logistical alliances to indicate trust, mutual benefit and a commitment to long term relationships. Multiple alliance relationships, especially with competitors, could potentially decrease trust and increase conflict if one alliance is perceived as providing a larger payoff. Surprisingly, the results are not strongly conclusive (Table 1.8). Manufacturers and merchandisers' responses were significantly different. It can be concluded that manufacturers are more sensitive than merchandisers, but not vehemently opposed, to partners who have multiple logistical alliances.

The ability to eliminate formal competitive bidding also showed unexpected results (Table 1.8). Competitive bidding typically has short term connotations and is related to traditional sourcing decisions based solely on lowest price. Competitive bidding appears more connected to transactional, not relational arrangements. Yet, manufacturers' mean response for this item was close to neutral.

Finally, in actual practice, manufacturers are skeptical that their firms truly develop "win-win" alliances where both parties share risks and rewards (Table 1.8). The response in this category leans toward neutrality.

The current state of logistical alliance formation discussed above clearly indicates a need for operationalizing alliance progression. The research

addressed three position statements. It can be concluded that (1) manufacturers believe logistical alliances are an important business alternative; (2) the ten motives provided are important to manufacturers for forming logistical alliances; and (3) manufacturers are interested in developing logistical alliances but lack the guidelines necessary to incorporate alliances within their organizations. Discrepancies exist between the results and the literature on several procedural issues as well. Each of these counter-intuitive findings needs to be examined in-depth.

GENERAL ALLIANCE MODEL

Figure 1.1 details the general alliance model that will be examined in this dissertation. The model has three distinct, but inter-related components: (1) Process; (2) Strategic; and (3) Operational Components. The Process Component posits that logistical alliances between manufacturers and material suppliers progress through five stages: (1) Need Awareness; (2) Search; (3) Selection/Decision; (4) Implementation/Administration; and (5) Assessment. Parallel to the Process Component are Strategic and Operational Components that allow the alliance to be formed, evaluated and maintained.

In the initial stages, participants establish strategic expectations regarding the net benefit of forming an alliance as well as criteria to search for information on alliances and to select an alliance partner. These expectations and criteria enable the participants to assess the desirability of establishing a logistical alliance. The criteria and expectations evolve as the alliance

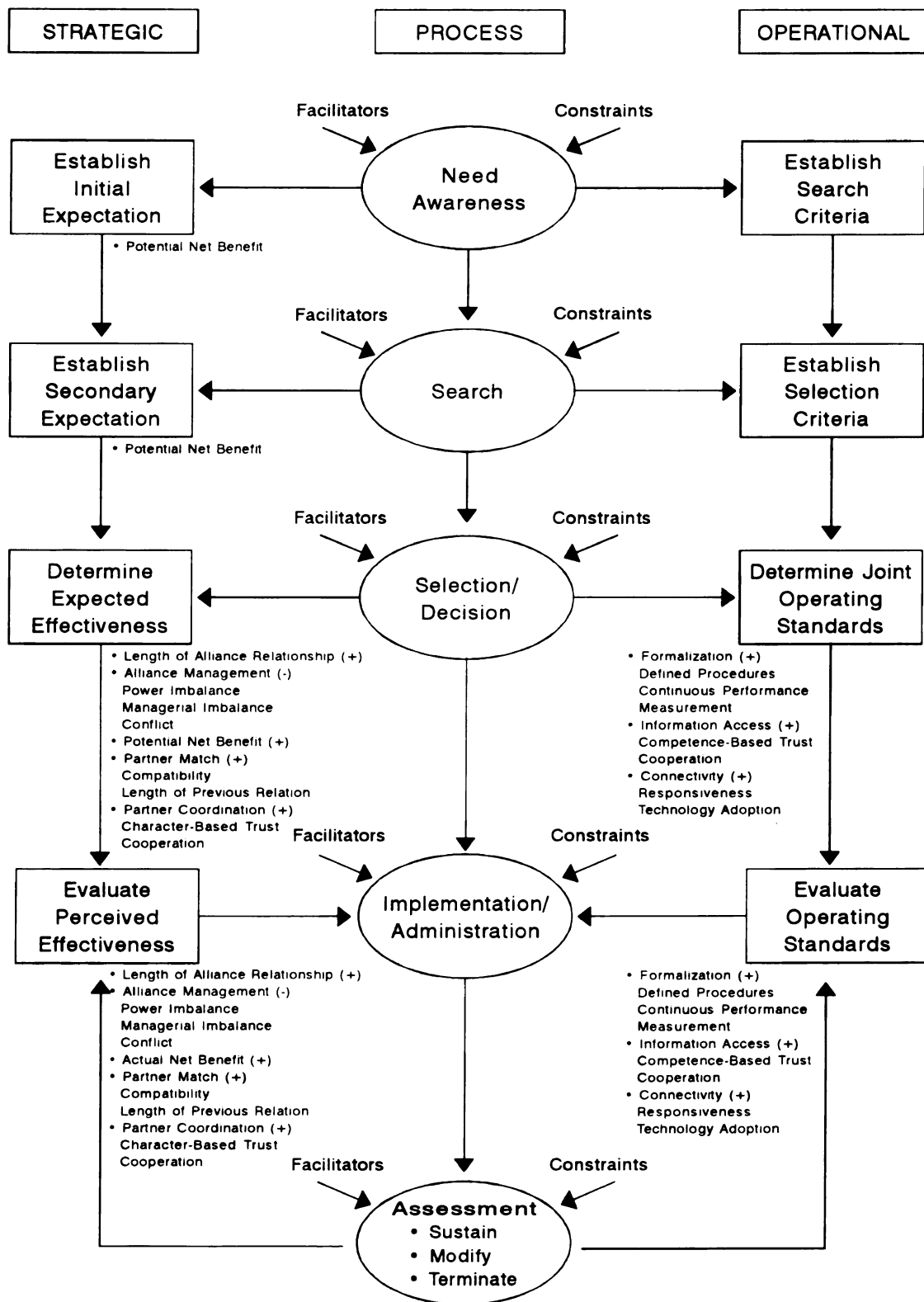


Figure 1.1
General Alliance Model

progresses toward the actual selection of an alliance partner. When a partner is selected and agrees to form an alliance, both parties determine the level of expected strategic effectiveness and joint operating standards. Once implementation occurs, alliance partners evaluate the actual levels of perceived effectiveness and the adherence to operating standards. These perceptions are compared to expectations developed during the Selection/Decision Stage. Based on the comparisons, the partners will assess whether to sustain the alliance in its current role, to modify strategic and/or operational aspects of the alliance, or to terminate the alliance.

If the alliance is maintained, the participants will re-cycle through the Implementation/Administration Stage in order to continually administer and assess the alliance. If the alliance is extended beyond the original mission or goal of the alliance, the participants will implement, and then assess, the modifications. If the alliance partners decide to terminate the relationship, the model is also dismissed.

Where possible, the facilitators and constraints at each stage of the Process Component will be based on information revealed from the baseline survey. For example, questions in this dissertation research related to facilitators of Need Awareness will be based on the motives shown in Table 1.5 and Table 1.6. Another facilitator at this stage may be uncertainty due to power shifts between channel members. Questions pertaining to contractual arrangements will investigate whether written or non-written forms are more important to manufacturers and material suppliers during Implementation/

Administration and if these arrangements contain provisions for limiting the number of alliances that partners are involved in.

RESEARCH PURPOSE

The purpose of this research was to investigate logistical alliances between manufacturers and material suppliers to determine the stages of alliance formation and maintenance. Characteristics that facilitate and constrain alliance success during the stages were identified and corollary strategic and operational evaluations were examined for their effect on alliance assessment. The general alliance model, that combined Process, Strategic and Operational Components, was evaluated and refined through a series of in-depth dyadic case studies.

The goal of this research was to develop a general alliance model for academic and managerial use. This general model provides managerial guidelines for logistical alliance formation and maintenance. This research expanded the alliance knowledge base through process discovery which is facilitated by understanding the parallel relationship between the Process, Strategic and Operational Components defined in the general alliance model. Process discovery and understanding were enhanced by evaluating and refining the general alliance model through dyadic case study.

RESEARCH OBJECTIVES

The specific objectives of the research were as follows:

1. To identify the stages of alliance formation and maintenance between manufacturers and material suppliers;
2. To identify characteristics that facilitate and constrain alliance success during formation and maintenance;
3. To identify strategic expectations and effectiveness that accompany alliance formation and maintenance and are used in alliance assessment;
4. To identify operational criteria and standards that accompany alliance formation and maintenance and are used in alliance assessment;
5. To develop a general alliance model;
6. To evaluate and refine the general alliance model with dyadic case studies; and
7. To generate topic areas for further research in alliances.

RESEARCH SCOPE

The research scope was on logistical alliances between manufacturers and material suppliers within the grocery industry in North America. Alliances between manufacturers and materials suppliers were investigated based on the expectation that alliances between these two channel members would differ from alliances between other channel members (e.g., retailers and wholesalers) in terms of facilitators, constraints and Strategic and Operational Components, not common process stages. This expectation is based in part on the baseline survey results which illustrated significant differences between manufacturer

and merchandisers' responses to critical questions, such as contractual requirements. Further, manufacturers are potentially forming alliances with material suppliers to achieve countervailing power to reduce control uncertainty as channel power shifts to retailers. This may create differences in the facilitators during the Need Awareness Stage of the general alliance model.

The grocery industry was chosen for study since it has traditionally been a leader in terms of utilizing information technology and providing high levels of customer service and quality. These activities play a crucial role in alliance formation. The selection is also based on the highly visible purpose which the grocery industry plays in North American logistics activities.

The research required working with logistics personnel of three food manufacturers, who were determined by expert opinion and previous research to be best practice leaders. Next, the research required working with appropriate personnel from a material supplier identified by each manufacturer as being a counterpart in a key alliance. As shown in Figure 1.2, this involved three dyadic case studies to describe a working methodology for each alliance and to detail alliance formation and maintenance. These three case studies potentially represent the "best-of-the-best" in logistical alliance relationships given participants were selected based on their best practice performance. The model (Figure 1.1) was used as the basis for data collection and resulted in the completion of a general alliance model that operationalized alliance theory for academic and managerial use.

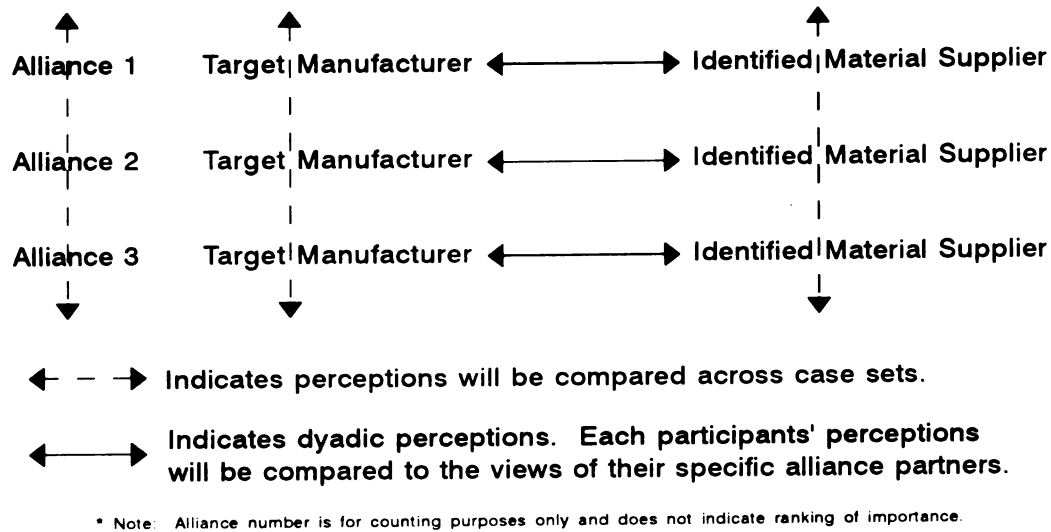


Figure 1.2
Dyadic Case Study Configuration

RESEARCH QUESTIONS

The research attempted to answer the following questions, grouped into three components: Process, Strategic, and Operational Components. These components are the main tenets of the general alliance model.

PROCESS COMPONENT

1. To what degree do logistical alliances between manufacturers and material suppliers progress through the five stages hypothesized in the Process Component?
2. What facilitators and constraints influence each stage of the alliance?
3. To what degree is an assessment made of strategic effectiveness and adherence to operating standards?
4. What promotes alliance extension beyond the original mission or goal?
5. What are reasons for terminating the alliance?

STRATEGIC COMPONENT

1. To what degree do strategic expectations evolve as the alliance progresses and lead to expected effectiveness?
2. How is expected effectiveness determined?
3. Do firms compare perceived effectiveness to expected effectiveness?
4. What elements of effectiveness promote long term survival, through sustainment or modification, of the alliance?

OPERATIONAL COMPONENT

1. To what degree do criteria evolve as the alliance progresses and lead to operating standards?
2. How are joint operating standards determined?
3. Do firms compare actual operating standards to initial operating standards?
4. What operating standards promote long term survival, through sustainment or modification, of the alliance?

These research questions are examined in Chapter III to provide a research design for the case studies which extracts the necessary information.

RESEARCH LIMITATIONS

The manufacturers utilized in the dyadic case studies were not randomly selected. Instead, selection was based on previous knowledge, acquired through association with the university, that these companies were indeed involved in logistical alliances with material suppliers. Further, the management at each manufacturer believes logistical alliances are a critical part of their business such that not only did each manufacturer agree to participate in the research, but also, its best alliance partner was encouraged to participate. Given this, the alliance partner (material supplier) was not randomly selected either, but instead was identified by each manufacturer.

Based on sample selection, the companies utilized may not be representative of firms within their industry who are not involved in alliances with material suppliers or who are unwilling to include alliance partners for in-depth research. It is possible that the companies selected represent the best of the best in terms of logistical alliance sophistication between manufacturers and material suppliers.

Concentration on the grocery industry may limit generalization of the results to other industries that are highly dissimilar. The grocery industry has been exemplary in comparison to other industries in terms of sophistication in information technology, customer service and performance measurement.

While the sample may not be representative of all companies, it does provide dyadic perspectives which broadens the range of potential alliance forms. Given the current embryonic state of alliance theory development, a narrow research scope concentrating on a historically advanced industry and its leading participants is appropriate for investigation.

POTENTIAL CONTRIBUTIONS

The main contribution of this research is the development of the stages of alliance formation and maintenance which broadens alliance knowledge through process discovery. A second contribution is the formation of Strategic and Operational Components that parallel the alliance stages as well as enable alliance assessment. Another secondary contribution is the identification of characteristics that facilitate and constrain alliance success.

These contributions were achieved by the development and subsequent evaluation of the general alliance model (Figure 1.1). This general model will be beneficial for academic and well as managerial use.

ORGANIZATION

The remainder of this dissertation forms the basis for Chapter II through Chapter V. Chapter II reviews the pertinent literature and details the development of the general alliance model including the theoretical basis supporting the model. This chapter reviews academic as well as practitioner literature to provide further support that an implementation gap exists between theory and practice and to show the lack of operational guidelines as opposed to anecdotal prescriptions.

Chapter III details the methodology and research design utilized in this dissertation. This chapter includes the research questions, a review of case research methodology, data analysis techniques and sample selection.

Chapter IV reveals the major findings derived from the case methodology, including anomalies and unusual results. Explanation of the results is also presented.

Chapter V contains the contributions, conclusions and summarizes the overall research effort. Implications to practitioners and areas for future academic research are also provided.

CHAPTER II

SURVEY OF LITERATURE

The following chapter is a review of the relevant literature concentrating on alliance typology and positioning, and explanation of the Process, Strategic and Operational Components of the general alliance model.

The discussion on alliance typology and positioning discerns the fundamental types of alliance relationships and develops the primary characteristics separating alliances from traditional buyer-seller relationships.

Thompson's (1967) theory of determinacy provides a theoretical basis for **why** alliances develop. In order to operationalize alliance progression, it is imperative to understand **how** alliances develop. Organizational theories provide substantive reasoning to explain the five stages of alliance formation and maintenance (Process Component).

Five dimensions are discussed that determine strategic effectiveness which evolves from strategic expectations (Strategic Component). The dimensions are the length of alliance relationship, alliance management, actual net benefit, partner match and partner coordination.

Operational criteria evolve into operating standards (Operational Component). Three dimensions, formalization, information access and connectivity, are discussed that determine operating standards. Previous research, reviewed in this section, provides the basis to combine Strategic and Operational Components with the stages of alliance formation and maintenance (Process Component) to develop the general alliance model.

ALLIANCE TYPOLOGY AND POSITIONING

This section categorizes alliances into four types to position the dissertation research as focusing within one specific domain. Discussion follows to review pertinent characteristics of alliances occurring within this domain.

ALLIANCE TYPOLOGY

Strategic alliances can be divided across two dimensions in order to categorize alliance structures. The dimensions are (1) the direction of integration, which is either vertical within the channel (e.g., up and downstream) or horizontal across channels; and (2) the level of complexity, which is based on the number of parties involved in the alliance. Table 2.1 summarizes this typology and provides an example of each form of alliance (Schmitz, Frankel and Frayer 1993).

Inter-channel alliances develop across channels as firms pool their resources in order to gain efficiency and effectiveness. J.B. Hunt and Santa Fe

Railway, for example, collaborate to provide customers with one transportation service achieved by combining short-haul motor carriage (J.B. Hunt) with long-haul rail movement (Santa Fe Railway). Since these alliances form horizontally, vertically integrative considerations (e.g., make versus buy) do not apply specifically to the alliance.

Table 2.1
Alliance Typology

<i>Type of Alliance/Alliance Level</i>	Inter-Channel	Intra-Channel
Basic Level	J. B. Hunt and Santa Fe Railway	Libbey-Owens-Ford and Schneider National
Extended Level	Abbott Laboratories, 3M, Standard Register, IBM, Kimberly-Clark and C.R. Bard	Du Pont, Milliken, Leslie Fay and Dillard Department Stores

Intra-channel alliances focus on vertical integration without ownership by creating cooperative arrangements within one supply chain. For example, a firm (Libbey-Owens-Ford) may choose to create an alliance with a carrier (Schneider National) for transportation services rather than develop a privately owned fleet.

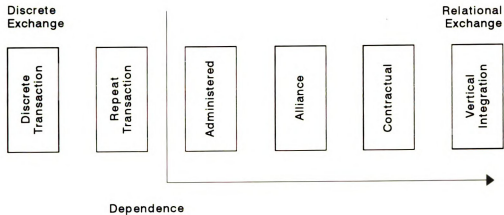
Alliances at a basic level occur between two parties. Extended alliances are more complex as more than two parties are involved in the cooperative arrangement. Multiple partners increase complexity in terms of communication and coordination efforts.

This dissertation will focus on intra-channel logistical alliances between manufacturers and material suppliers at a basic level. It is important to research basic level alliances sufficiently prior to adding the complexity of alliances at the extended level. To facilitate ease of reading, the term alliance, in further discussion, will be understood to mean intra-channel, basic level logistical alliances.

ALLIANCE POSITIONING

To understand the context of alliance development it is critical to position alliances along with other forms of buyer-supplier relationships. Figure 2.1 illustrates the continuum of buyer-supplier relationships in existence today classified by the level of acknowledged dependence between participants (Bowersox et. al 1989; Bowersox and Cooper 1992). Moving along the continuum, the relationship changes from transactional to relational such that interdependence between buyers and suppliers increases (Bowersox et. al. 1989; Bowersox and Cooper 1992; Bowersox et. al. 1992). It is perhaps easiest to understand the continuum by examining the extreme points first.

At the left extreme, discrete transactions illustrate the least relational form of exchange between buyers and suppliers. The exchange may even be limited to a one-time purchase (e.g., purchase of real estate). As such, little communication occurs between manufacturers and their material suppliers, a relationship is not fully developed, and the basis of the exchange is price (Dwyer, Schurr and Oh 1987; Webster 1992).



* Adapted from Bowersox et. al. 1989; Bowersox and Cooper (1992).

Figure 2.1
Buyer-Supplier Relationship Continuum

At the opposite end of the continuum is vertical integration. In some ways, vertical integration is the most extensive form of relational exchange since the buyer and supplier become integrated into one company. The relationship is formalized through ownership investment. High levels of coordination and control are achieved.

Moving within the continuum, repeat transactions indicate a continued, as opposed to one-time, exchange based on benefits of specialization (Bowersox and Cooper 1992). However, no acknowledged dependence exists between the buyer and supplier. Exchange is repeated due to buyer preference, loyalty or convenience, but may be discontinued at any time without notice

(Webster 1992). Given this non-committal stance, the relations are often termed free-flow (Bowersox and Cooper 1992).

Administered relationships denote movement to an on-going relationship between the buyer and supplier. These relationships are based on acknowledged dependence, but are typically adversarial. Price is still a major factor in the exchange (Spekman 1988).

Alliances develop when the buyer and supplier collaborate to achieve a "long term strategic goal" (Webster 1992). The focus of the exchange is no longer price (Bowersox et. al. 1989). Instead, the buyer and supplier have joint emphasis on the core product and value-added services (Frazier, Spekman and O'Neal 1988). Communication is frequent and can occur through formal and informal channels. The "hallmark" of alliances is cooperation between the buyer and supplier which leads to integrative efforts that transcend organizational boundaries (Bowersox 1990). Essentially, the alliance allows the buyer and supplier to achieve the level of relational exchange and control found with vertical integration but without the subsequent financial investment.

Contractual relationships occur when participants develop formal contracts, often taking the form of franchises, exclusive dealerships and joint ventures (Bowersox and Cooper 1992). Unlike vertical integration, these arrangements allow parties to maintain individual ownership. Dependence is high and the relationship and performance expectations are very formalized.

The buyer-supplier relationship continuum (Figure 2.1) provides an overview of the types of intra-channel relationships that exist. It is critical to

note that a distinct shift is occurring in this continuum. Whereas a large portion of buyer-supplier relationships were traditionally categorized as administered, alliances are increasing between buyers and suppliers (O'Neal 1989; Dobler, Burt and Lee 1990; Heinritz et. al. 1991). This shift is driven by the ability of alliances to "enhance the long term competitiveness of the strategic partners" in response to increased competition from globalization and industry consolidation (Ohmae 1989; Spekman and Sawhney 1990).

ALLIANCE ORGANIZATION

As characterized, alliance partners integrate their operations, share critical information and develop joint performance and planning procedures (Dwyer, Schurr and Oh 1987; Frazier, Spekman and O'Neal 1988). Often, the partners are so successful that "the linkages between the two companies are so strong that the boundaries blur and it is difficult to discern where one organization begins and the other ends" (Spekman and Sawhney 1990). When this occurs the relationships between the representatives from both companies may be closer than the ties each representative has back to its own organization (Kanter 1989). The alliance essentially forms a new organization with a mission to achieve the joint strategic goals determined jointly by the alliance partners. This is illustrated in Figure 2.2. Given the development of a new organization, it is important to determine the appropriate means for studying alliance structures.

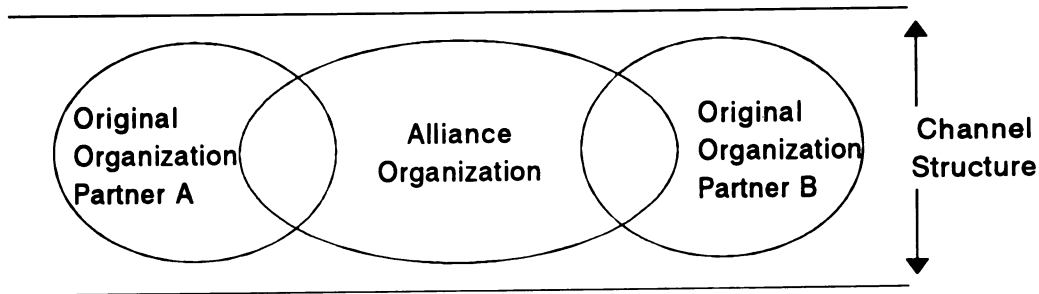


Figure 2.2
Alliance Integration

Reve and Stern (1979) questioned the appropriate form of study for channels. They stated that channels could be studied as interorganizational systems and considered channel structures as "superorganizations." As such, the authors concluded that interorganizational systems were essentially "complex social organizations" and provided the following similarities between interorganizational systems and individual organizations:

- (1) Both are oriented to achieve collective and self-interest goals;
- (2) Both differentiate tasks which increase interdependence between organizational units; and
- (3) Due to integrated action, unique identities are created that are separate from the individual units that make up the organization.

Lucas and Gresham (1985) built upon this notion by using general theories of organizational interaction to explain channel relations. Since intra-

channel alliances occur within the same channel, these forms of alliances can be described as interorganizational systems and studied using organizational theories. Further evidence for this reasoning is that alliances form a new higher-level organization by combining a set of organizations (Figure 2.2). This new alliance organization is equivalent to Reve and Stern's (1979) concept of the superorganization. One organization theory conducive to explaining why alliances develop was originated by Thompson (1967) and is described below.

THEORY OF DETERMINACY -- WHY ALLIANCES DEVELOP

Thompson (1967) discussed that the central problem for complex organizations is determining how to manage uncertainty. One way to explain the effects of uncertainty is to divide the organization into three distinct levels of responsibility and control (Parsons 1960; Thompson 1967). The three levels or sub-organizations are (1) the technical level, which focuses on effective performance of technical functions or tasks; (2) the managerial level, which controls and administers the technical sub-organization; and (3) the institutional level, which legitimizes or provides higher level support to allow organizational goals to be achieved (Parsons 1960; Thompson 1967). One example of this hierarchy would be to divide a corporation into its production (technical), administrative (managerial) and corporate (institutional) activities.

Thompson (1967) advocated that the main sources of uncertainty occur at the technical and institutional levels. Uncertainty at the technical level occurs from variability in resource-acquisition (input) and output-disposal

(output) activities which are required to support the performance of production functions or tasks. The institutional level deals with environmental uncertainty such as competition, consumer demand and government regulation.

Uncertainty at the technical level is under some of the organization's control through rationalization of input and output choices. For example, uncertainty in the quality of procured material can be reduced by limiting the number of potential suppliers to those who have achieved a quality certification such as ISO 9000. Uncertainty at the institutional level is not under the organization's control. The managerial level serves to mediate between environmental factors (uncertainty) affecting the institutional level while maintaining effective performance results at the technical level.

To facilitate this, organizations create technical cores within the technical level to accomplish production/service goals. One or more technologies represent the technical core. The core may be a production system or value-added service which the organization specializes in. The technical core provides a competitive advantage and differentiates the organization from competitors.

The technical core requires inputs and dispenses outputs which are interdependent with the environment and the technical core itself. As such, Thompson (1967) hypothesized that organizations seek to protect the technical core from environmental influences by buffering input materials and output products. Examples given of buffering include stockpiling raw materials (inputs) and warehousing finished goods (outputs).

Thompson (1967) also hypothesized that firms would attempt to use inputs and outputs to maintain consistency over environmental fluctuations such as using inventory to smooth seasonal demand patterns. When environmental changes can not be buffered or leveled out, organizations attempt to anticipate or adapt to these changes. Readjusting forecasts is an example of adaptation.

As a last resort, organizations will "ration" activities by developing priority systems for production/service to protect technical cores. Thompson (1967) proposed that rationing may occur when a manufacturer of a "suddenly popular item" limits the amount of products sold to less profitable channels in order to provide greater quantities of product to more profitable customers.

Another means for protecting the technical core from uncertainty is to develop a strategic alliance (Spekman and Sawhney 1990). For a manufacturer, this could occur with either an input (material supplier) or output (retail/wholesale customer) partner. Integrative efforts, joint synergy and planning, and real time communication exchange would decrease uncertainty. This in turn alleviates the need to buffer resources (in the form of safety stock) and reduces the dependence on forecasting methods. Anticipatory or adaptive techniques would be jointly planned so environmental fluctuations are proactively recognized and resolved.

The alliance, as a new organization, still has three hierarchical levels or sub-organizations. For example, the alliance develops an enlarged technical core as the technologies of both partners are combined to provide joint goal

attainment. Internalizing these technologies within the alliance places the relevant input or output partners (whichever the case may be) under the alliance organization's control, hence reducing uncertainty. The managerial level is made up of the personnel from both partners whose task it is to implement and administer the alliance. The institutional level essentially combines the strategic-oriented agents who are concerned with macro environmental variables that impact the alliance. Figure 2.3 illustrates the alliance organization.

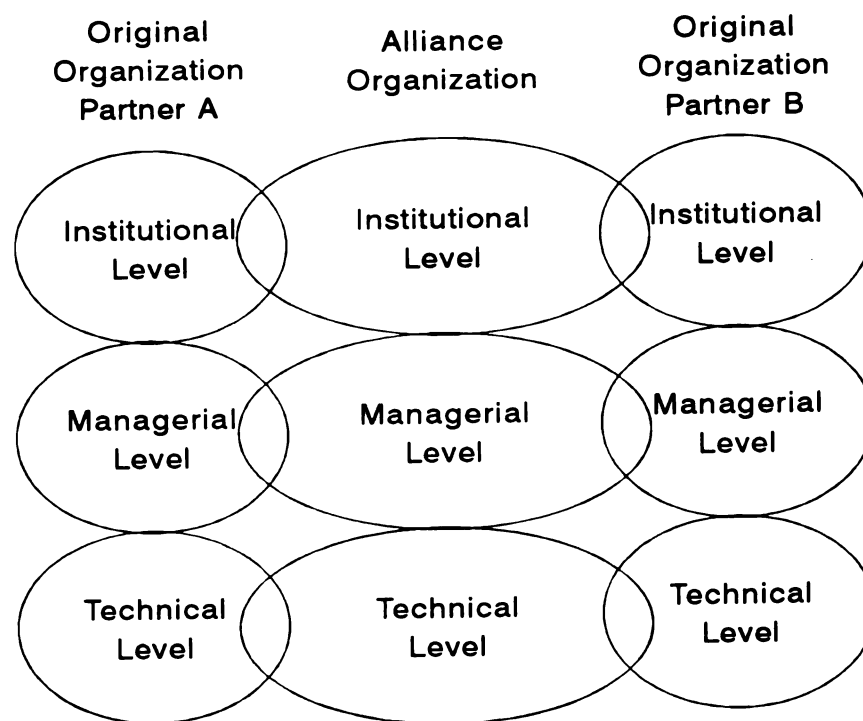


Figure 2.3
Alliance Organization

STAGES OF ALLIANCES -- HOW DO ALLIANCES DEVELOP

Once an organization decides to develop an alliance in order to protect its technical core from uncertainty, that organization proceeds through a series of stages to form the alliance. Since the alliance creates a new organization with an expanded technical core and more formalized and connected relationships, it is assumed the organizations involved make significant changes in strategic and operational practices. Similar to a planned change, alliances form as a "deliberate effort to improve the system" (Lippitt, Watson and Westley 1958). Thus, theories of organizational and planned change can be utilized to explain how alliance formation (intra-organizational change) occurs.

The overall alliance model can be divided into three components. First, the Process Component must be understood. This component identifies the stages of alliance formation and maintenance, and is based on the theories of organizational and planned change. Second, the Strategic Component must be defined. This component examines how strategic expectations and evaluations of alliance effectiveness evolve as the alliance progresses through development stages. Finally, the Operational Component must be described to show how operational criteria and standards develop in parallel to the Strategic and Process Components. These three components, when combined, create the general alliance model evaluated in this dissertation. The following sections will be organized to describe each component individually, then in combination. Discussion will start with the Process Component, then move to the Strategic Component and end with the Operational Component.

PROCESS COMPONENT

Many authors have provided stages for successful organizational and planned change. Table 2.2 summarizes key work in this area. Note that all authors in the table utilized a five stage model with the exception of Greiner (1967) who used a six stage model. However, Greiner's first two stages are easily collapsed into one as they address need recognition and awareness of the initial problem.

Based on a compilation of the literature, five stages will be utilized to explain alliance formation and maintenance. These stages are (1) Need Awareness; (2) Search; (3) Selection/Decision; (4) Implementation/Administration; and (5) Assessment. Each process stage is described below and shown in Figure 2.4. Note that only one party initiates the alliance (Stage 1 and 2). The second party is formally added to the alliance once it is chosen as a potential partner (Stage 3) by the initiating party.

Need Awareness

Any change initiative begins with awareness of a problem or need (Bennis 1987). However, as Lippitt, Watson and Westley (1958) stated, problem awareness is not enough to induce change. The organization must be convinced the possibility for an improved system exists. For many firms, the problem is some form of uncertainty that can be reduced by forming an alliance. Opportunities that the alliance can provide are identified, creating further need for the alliance. The potential problem solution and benefits

Table 2.2
Stages of Organizational/Planned Change

Lippitt, Watson and Westley
(1958)

- Develop a Need
- Establish a Change Relationship
- Work Toward Change
- Generalization and Stabilization of Change
- Achieving a Terminal Relation

Rogers (1962)

- Awareness
- Interest
- Evaluation
- Trial
- Adoption

Greiner (1967)

- Pressure and Arousal
- Intervention and Reorientation
- Diagnosis and Recognition
- Invention and Commitment
- Experimentation and Search
- Reinforcement and Acceptance

Zaltman, Duncan and Holbek
(1973)

- Initiation Stage
 - Knowledge - Awareness Substage
 - Formation of Attitude about Innovation Substage
 - Decision Substage
- Implementation
 - Initial Implementation Substage
 - Continued-Sustained Implementation Substage

Bennis (1987)

- Concern: Awareness
- Diagnosis: Knowledge Search
- Consideration of Alternatives
- Action: Implementation
- Follow Through: Evaluation

Dwyer, Schurr and Oh (1987)

- Awareness
- Exploration
- Expansion
- Commitment
- Dissolution

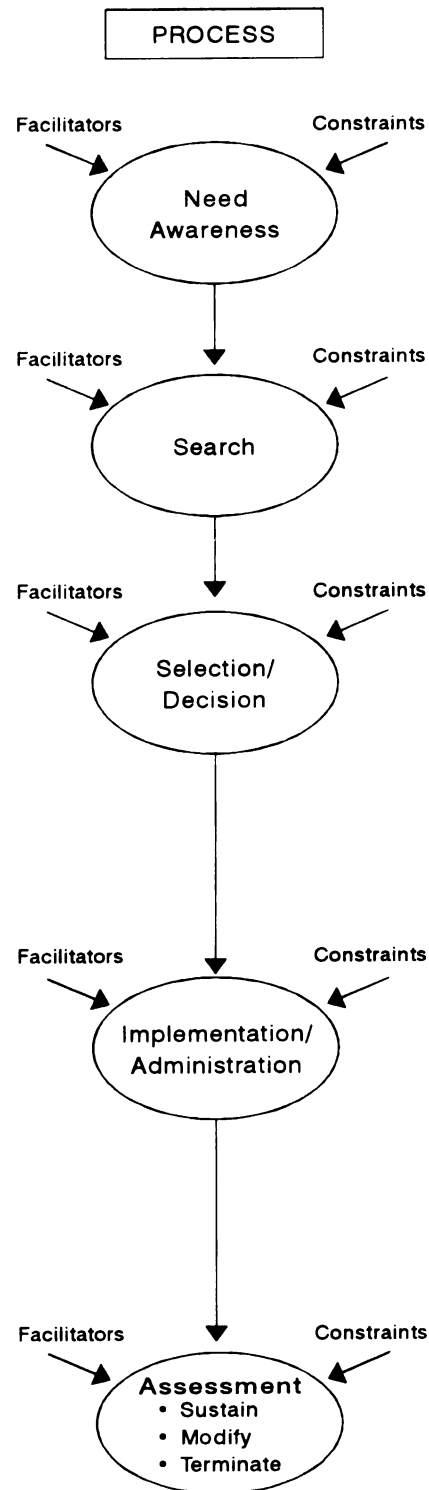


Figure 2.4
The Process Component

facilitate need awareness, while constraints, such as traditional sourcing strategies, may hinder need awareness.

Search

At this stage, the organization is motivated to seek more detailed information regarding the change (Rogers 1962). The problem is clarified and analysis of the potential for an alliance is performed, including a review of information on alliances and estimates of alliance benefits. Factors considered at this stage may include the critical nature of the technical core being considered for the alliance and alternative sources that have partnership potential. These factors may encourage or constrain the search.

The selection of an alliance partner is hypothesized by Spekman (1988) to be a two-step approach. The first step involves creating evaluative criteria to develop a "threshold" level. The criteria represent the characteristics a firm must possess in order to be considered for an alliance. This threshold level is essentially the first cut which provides a smaller "pool of potential strategic partners" (Spekman 1988). When this step is complete, the alliance moves to the third stage where the final selection (the second step in Spekman's (1988) approach) is completed.

Selection/Decision

In this stage, the smaller pool of potential partners is broken down and each member of that pool is examined. Relevant knowledge on each member

is gathered, specific problems are considered and feasibility is determined. Candidates are compared and may even be approached about the potential alliance. Finally, one candidate is selected and both parties agree to form an alliance. It is not until the completion of this stage that the alliance involves both partners to a full extent.

Greiner (1967) discussed the need for full commitment to the change at this stage. Therefore, any necessary contractual arrangements will be made as well as plans for investments in the alliance operational structure. Possible investments include information technology to facilitate communication (e.g., developing proprietary standards) and physical equipment to provide value-added services pertinent to the alliance. Also, it is hypothesized that alliance goals will be finalized, mutual expectations for alliance effectiveness will be agreed to and joint operating standards will be determined. These activities may facilitate full commitment or lengthy negotiation may be required to overcome constraints.

Implementation/Administration

At this stage, the actual change (alliance formation) occurs such that the new alliance organization is developed. Technical and social knowledge is shared and adopted between partners. Operational changes are also implemented. Implementation may start with a small experiment to test the alliance prior to full implementation. This is referred to by Greiner (1967) as "reality testing."

Other factors affecting this stage which represent potential facilitators or constraints include actual investment and barriers to exit. Actual investment, specific to the alliance and made by either alliance partner, will be considered in this stage. It is important for both parties to recognize the investments made by the other (Spekman 1992). Heide and John (1990) found specific investments increased the extent of joint action and expectations of continuity. Actual investments may act as a facilitator by enhancing the perception that a favorable partnership exists.

Alliance specific investments may increase switching costs which increases barriers for each party to exit the relationship. Spekman (1992) found collaborative relationships were balanced when each party perceived high exit costs for the other. This balance led each party to perceive alliance termination would be difficult and costly. Exit costs may prevent alliance partners from terminating the alliance even if evaluation of effectiveness and operating standards is negative. This will occur if the alliance partners perceive exit costs, due to actual investment and switching costs, are higher than maintenance costs.

Assessment

The alliance is stabilized such that full implementation has occurred and the alliance is operational. Rogers (1962) termed this stage "adoption" to indicate continued, full use of the change. Alliance partners review the original goals or mission for the alliance as well as evaluate perceived effectiveness and

adherence to operating standards. Partners assess the alliance to determine if the relationship is successful. Greiner (1967) termed this assessment as a "search for signs of payoff." If the evaluation is positive, the alliance is either (1) sustained as a permanent system; or (2) modified and extended beyond the original goal. If the evaluation is negative, the alliance may be terminated.

If the alliance is sustained, partners perform on-going assessments to evaluate perceived alliance effectiveness and adherence to operating standards. Alliance goals and operating standards may be revised based on environmental fluctuations and when necessary to reinforce the relationship. At this point, the alliance is seen as a permanent system that continually moves between assessment (to evaluate strategic effectiveness and operating standards) and administration. Continued visible investment and contractual refinements may be necessary over the lifetime of the alliance to facilitate administration which also affects the perceived barriers to exit. The alliance is expected to be sustained until participants perceive it (1) needs to be modified; or (2) it has outlived its strategic effectiveness or failed to meet operating standards and agree to terminate the relationship.

Figure 2.4 summarizes the stages of alliance formation and maintenance and details **how** alliances develop over time. One difficulty in using stage or cycle models is the inability to determine a starting and ending point for each stage. This is a historical criticism of any stage model (e.g., organizational change, planned change, product life cycle). However, specific characteristics provide evidence to determine which stage the alliance is in with the proposed

framework. Further, there are concrete events to help identify the stage. One obvious example is the Selection/Decision Stage which "ends" when the two parties agree to form the alliance. Regardless of criticisms of stage models, they offer well-developed, often used solutions to describe various events and are found consistently in academic and practitioner literature. Any shortcomings in predictability of stage transitions are overcome by the explanatory capability provided with stage models. Given the exploratory nature of this dissertation, a stage model is an acceptable research framework.

STRATEGIC COMPONENT

Bucklin and Sengupta (1992 and 1993) developed a measure of alliance success based on mutual benefit and used this measure to evaluate successful co-marketing alliances. Essentially, co-marketing alliances are inter-channel alliances, occurring horizontally across channels. However, the framework used to develop the measure of alliance success is based on interorganizational exchange behavior where organizations seek to reduce uncertainty by "exchanging resources for mutual benefit" (Bucklin and Sengupta 1992 and 1993). As such, this framework is also applicable to intra-channel alliances since exchange behavior described in this fashion is generalizable to numerous alliance relationships.

The remaining portion of this section will begin with a review of the measure of success developed by Bucklin and Sengupta (1992 and 1993) and will provide an additional construct not included in their original measure. Next,

this measure will be positioned in terms of the present study by developing the Strategic Component of the general alliance model in a parallel manner to the Process Component.

Bucklin and Sengupta (1992 and 1993) developed a dyadic measure of alliance success that examines the perceived effectiveness of an alliance. In order to gauge mutual benefit, perceived effectiveness is defined as "the extent to which (both) firms are committed to the alliance and find it to be productive and worthwhile" (Bucklin and Sengupta 1992 and 1993; (both) is inserted for clarity). The authors postulated that perceived effectiveness can be explained through five dimensions: age, project management, project payoff, partner match and rate of technological change. In the Bucklin and Sengupta (1992 and 1993) study, rate of technological change was seen as a motivator for inter-channel alliances such that development costs would be shared across the channel. This measure was specific to research-oriented co-marketing alliances, not intra-channel alliances (e.g., between manufacturers and material suppliers). As such, rate of technical change will not be included in this dissertation. The remaining four dimensions will be discussed below. It is important to note that, while using the same definitions for the dimensions, this dissertation renames three of the dimensions so they are more closely associated with terms used in buyer-supplier relationships. The new terms are called: (1) length of alliance relationship (age); (2) alliance management (project management); and (3) actual net benefit (project payoff).

Bucklin and Sengupta (1992 and 1993) tested their measure of alliance success with a sample of 70 firms in the computer and semiconductor industries, believing these industries would show a high incidence of co-marketing alliances. The sample size was 98. Ordinary least squares estimation was used to test their hypotheses.

Length of Alliance Relationship

Length of alliance relationship refers to the length of time the alliance has been operational. Heide and John (1988 and 1990) found age or length of relations to be an important factor that significantly increased expected future exchange. Bucklin and Sengupta (1992 and 1993) hypothesized that alliances, having survived "some test of time," would be more likely to be successful the longer they were in existence. Bucklin and Sengupta (1992 and 1993) expected and found length of alliance relationship to have a positive impact on perceived effectiveness.

Alliance Management

Alliance management has three elements that negatively impact alliance effectiveness: power imbalance, managerial imbalance and conflict. Power imbalance occurs when the partners are not able to mitigate any power differences such that the alliance is not seen as operating for mutual benefit. The weaker party feels that the alliance favors the more powerful partner. Spekman and Sawhney (1990) explained that a symmetrical (power balance)

exchange provides the necessary motivation for both parties in an alliance to achieve mutual benefit. As such, an asymmetrical (power imbalance) exchange motivates only one partner. The inability to manage a difference or an imbalance of power leads to mistrust and conflict and was shown to reduce perceived alliance effectiveness (Bucklin and Sengupta 1992 and 1993).

Managerial imbalance occurs when alliance partners fail to provide equivalent levels of managers in terms of the number of participants assigned to the alliance and their organizational position (Bucklin and Sengupta 1992 and 1993). This imbalance creates the perception that one organization is less committed to the alliance than the other causing the partners to question continued effort. Sonnenberg (1992) cited lack of equal commitment as a key reason for alliance failure. Devlin and Bleackley (1988) stated one factor of a successful alliance is the assurance that partners "contribute equally" to the alliance. When this does not occur, and a managerial imbalance is created, alliance effectiveness will be negatively affected. This position was supported by the Bucklin and Sengupta study (1992 and 1993).

Conflict occurs when one channel member is "engaged in behavior designed to injure, thwart, or gain scarce resources at the expense of (the other)," (Goldman 1966; (the other) is inserted for clarity). If alliance partners cannot limit conflict, the partners will have negative perceptions of alliance performance. Gaski (1984) found conflict itself has a negative effect on satisfaction while Ruekert and Walker (1987) found conflict resolution had positive effects. Anderson and Narus (1990) divided conflict into functional

and dysfunctional forms where the former was found to have positive effects and the later to have negative effects on performance. Bucklin and Sengupta (1992 and 1993) found dysfunctional conflict to have a strong negative impact on alliance effectiveness. Functional conflict was not tested in the Bucklin and Sengupta study (1992 and 1993) and will not be directly examined in this dissertation.

Actual Net Benefit

Actual Net Benefit was defined by Bucklin and Sengupta (1992 and 1993) as "the strategic value of the alliance net development cost," and indicated alliances, formed on the basis of well-defined costs and benefits, were more likely to have perceptions of high performance. The results showed actual net benefit had a significantly positive impact on perceived effectiveness.

Examples of potential alliance benefits for a manufacturer and a material supplier include inventory reduction, improved quality, less reliance on forecasting methods due to sharing information and decreased material obsolescence. Potential costs include investments in equipment, tooling and information technology. It is likely that costs, related to human resources, will be incurred from training and dedicating employees to manage the alliance.

Partner Match

Partner match is an indicator of the ability of alliance partners to develop a cohesive arrangement based on management styles and corporate culture

(Bucklin and Sengupta 1992 and 1993). Similar concepts are found in the literature on alliances such as domain consensus, goal compatibility and organization compatibility (Van de Ven and Ferry 1980; Ruekert and Walker 1987; Achrol, Scheer and Stern 1990).

Partner match has two elements: organizational compatibility and the length of previous business relations (called prior history in the Bucklin and Sengupta studies). Both dimensions were found to significantly impact perceived effectiveness in a positive manner (Bucklin and Sengupta 1992 and 1993). Compatibility indicates the ability of the firms to operate as one (Achrol, Scheer and Stern 1990). In essence, compatibility reflects the concept of vertical integration without ownership. Organizational compatibility is a function of mutual goals, similar culture and a match in strategic orientations (Achrol, Scheer and Stern 1990; Bucklin and Sengupta 1992 and 1993). Another important aspect of compatibility is the ability to share information between alliance partners. This is influenced by whether the firms have compatible information systems.

The length of the previous business relationship is associated with the length of the alliance relationship, but in this case, focuses on the necessity that alliance partners have enough knowledge about each other (gained over time) such that they are able to "judge their compatibilities" and determine if a potential match exists (Bucklin and Sengupta 1992 and 1993). Basically, this element is based on the belief that organizations do not form alliances with perfect strangers. Rather, alliances develop between organizations that have

some historical relationship that is now evolving to a higher level of dependency.

Partner Coordination

Based on the literature on alliances, many factors, shown to be important in the evaluation of alliances, were either treated indirectly in Bucklin and Sengupta's (1992 and 1993) original framework or were left out altogether. These elements are character-based trust and cooperation. Both are related to a higher level abstraction called partner coordination. Partner coordination examines the strategic facets of social interaction. In other words, partner coordination is concerned with how the alliance partners personalize the working relationship and perceive each other's strategic level of commitment.

While trust is indirectly considered in Bucklin and Sengupta's framework as a part of organization compatibility, it is a critical factor in alliances and should be given a more direct, substantial link to effectiveness. For example, lack of trust is seen as a major reason for alliance failure and, as such, is an important aspect in alliance performance (Frazier, Spekman and O'Neal 1988; Bowersox et. al. 1989; Young and Wilkinson 1989; Bowersox et. al. 1992; Larson 1992; Sonnenberg 1992). In fact, in the Achrol, Scheer and Stern (1990) study, organization compatibility and trust were treated as separate dimensions of alliance success. This is supported by Anderson and Narus (1990) who found trust positively impacted channel performance satisfaction. Trust must exist in an alliance since each party depends on the other to satisfy

mutual, rather than self-serving, goals. Trust also must be present such that alliance partners are willing to share key information on a strategic and operational level. Trust, as discussed by Young and Wilkinson (1989), means believing the other party is capable and willing to act in accordance with agreements.

Gabarro (1978) identified three bases of trust that develop between superior-subordinates at an executive level. These bases were character-based trust, competence-based trust and judgement (Gabarro 1978). In 1987, Gabarro collapsed judgement into competence-based trust, leaving only two trust bases. While Gabarro's research focused on two-person working relationships between superiors and their subordinates, his delineation of trust can be applied to other working relationships such as an alliance. The primary purpose of his study was to understand how working relationships developed over time and why some were more effective than others. In the same sense, this dissertation is examining how intra-organizational collaborative relationships develop and why they are (or are not) effective. Similar to the interplay of power in the superior-subordinate relationship, the supplier must be responsible to its customers and, in that sense, fulfills the "subordinate" position.

Character and competence-based trust are easily differentiated. Character-based trust examines the qualities or characteristics inherent in the partners' philosophies and cultures, while competence-based trust is concerned with specific behavior. In other words, trust is evaluated in terms of a qualitative assessment of a partner's characteristics as well as quantitative

assessment of a partner's actual behavior and operational performance. This distinction is mirrored by Ganesan (1994) who used trust as a multidimensional construct to examine determinants of buyer-seller relationship continuity.

Ganesan (1994) utilized two distinct trust bases -- benevolence and credibility. Benevolence was defined as a perception of a partner's intentions and motives while credibility was a perception of a partner's expertise and ability to effectively perform operational tasks (Ganesan 1994). The delineation of trust is similar and complimentary to Gabarro's (1987) structure. Benevolence examines the qualitative aspects of interaction and is equivalent to character-based trust. Credibility examines specific behavior and is equivalent to competence-based trust.

An expanded delineation of the two trust bases is provided and used in this dissertation. Character and competence-based trust can be further distinguished by the level of assessment. Character-based trust is evaluated on a strategic level such that a comparison of qualities and characteristics is made in terms of organizational philosophies, cultures, strategic intentions and goals. Competence-based trust is examined on an operational level to evaluate performance competency and business expertise. Given this distinction, character-based trust will be used as an element of partner coordination for evaluating strategic effectiveness. Competence-based trust will be included as an element of information access for evaluating operating standards. Further discussion of competence-based trust will be provided later in this chapter in the Operational Component section.

Gabarro's (1978 and 1987) character-based trust can be used to describe how alliance partners manage the alliance relationship on a strategic level. Gabarro (1978 and 1987) identified five sources of character-based trust. They are (1) *integrity* as a perception of the partner's level of honesty; (2) *identification of motives* as a perception of the partner's true strategic intentions; (3) *consistency of behavior* as a perception of the reliability and predictability of the partner's actions under different situations; (4) *openness* as a perception of how up-front the partner is about problems; and (5) *discreetness* as a perception that the partner will maintain confidentiality of strategic plans and key information. These five sources of character-based trust are consistent with strategic level expectations of an alliance partner and focus on the similarity of corporate philosophies and culture. For example, in order for alliance partners to achieve mutual benefits, they must understand and trust each other's motives and be open about strategic expectations. As such, character-based trust is hypothesized to have a positive impact on alliance effectiveness.

Mallen (1967) stated "for maximization of channel profits and consumer satisfaction, the channel must act as a unit," which directly implies the need for cooperation. Cooperation at the strategic level also implies cooperative or joint planning such that both parties share long term business goals (e.g., growth, new product development, etc...). Frazier, Spekman and O'Neal (1988) discussed how cooperation enables value added services to develop that advance alliance benefits. The authors stated that a key feature of successful

alliance exchange is the coordination of "product development, quality assurance and logistics." In this manner, Partner Coordination evolves from cooperation at a strategic level. Hendrick and Ellram (1993) illustrated this level of cooperation by stating alliance partners see their co-destiny such that if either party fails to remain competitive, both parties will lose. Thus, the perception of co-dependence creates a commitment that both parties will cooperate and help each other "maintain their respective competitiveness" (Hendrick and Ellram 1993). In this case, cooperation results at a strategic level when partners cooperate to achieve mutual strategic goals such as overall cost reduction. Based on the research findings, cooperation is hypothesized to have a positive impact on perceived effectiveness.

Figure 2.5 illustrates the model of perceived effectiveness including the additional construct, partner coordination. This model was originally viewed as an evaluation of the current state of alliance effectiveness.

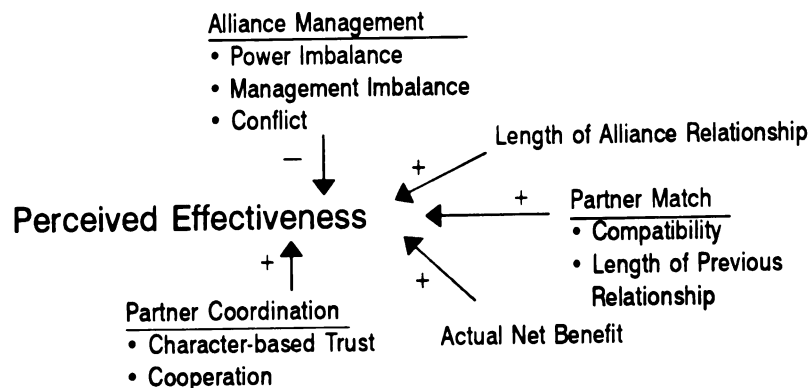


Figure 2.5
Evaluation of Alliance Effectiveness

PROCESS AND STRATEGIC COMPONENTS

Figure 2.6 shows the Process Component combined with the evaluation of alliance effectiveness. Note, the figure contains a sequential development of effectiveness not provided in the Bucklin and Sengupta (1992 and 1993) framework. This development structure allows the Strategic Component of the general alliance model to occur in parallel with the Process Component.

Bucklin and Sengupta (1992 and 1993) utilized the perception of alliance effectiveness to determine the current level of alliance success. However, this dissertation focuses on overall alliance formation and maintenance. As such, it is imperative that the evaluation of effectiveness be dynamic, not static, to reflect the true state of business. The remaining portion of this section describes how the evaluation of effectiveness develops as the alliance progresses through the five process stages.

Bucklin and Sengupta (1992 and 1993) used perceived effectiveness to measure alliance success as a strategic level of commitment and performance provided by the alliance. As such, this measure can not be taken until the alliance is initially implemented. It is not until implementation occurs that partners search for signs of success.

Once in the Assessment Stage, perceived effectiveness continues to be evaluated while the alliance is administered. Evaluation of perceived effectiveness is shown in Figure 2.6 to occur at stages of Implementation/ Administration and Assessment. It provides a continual evaluation of the strategic nature of the alliance as it is administered and assessed over time.

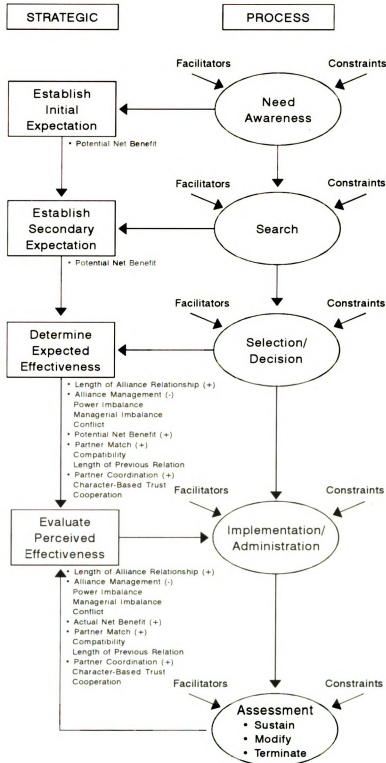


Figure 2.6
Process and Strategic Components

A precursor to perceived effectiveness is expected effectiveness. This sequential step is supported in consumer behavior literature concerning satisfaction and decision making. For example, Oliver (1980), in a discussion about consumer choice, stated purchase choice is based on several aspects, including expectations about product performance. After the brand is used, the consumer develops a perception of the product's actual performance. Cadotte, Woodruff and Jenkins (1987) conferred that performance expectations are a "well-accepted part of the prepurchase choice process." Oliver and Winer (1987) also stated expectations are important in consumer decision-making.

Given that the alliance partners are essentially making a decision to change their relationship and to form a new alliance organization, it is assumed that they will follow similar steps in their decision to pursue the alliance as would be followed in consumer choice models. However, a critical difference is that consumer choice models are based on the behavior of individual consumers, not individuals acting on behalf of organizations. As such, many of the constructs used in consumer behavior such as satisfaction are not clearly applicable to alliance decisions. However, assuming that the determination of expected effectiveness precedes the evaluation of perceived effectiveness is a relatively clear sequence of events such that it appears applicable in both cases (consumer behavior and alliance formation).

The Strategic Component shows the impact of expected effectiveness as occurring at the stage where the alliance partner is selected and confirmed. Since the alliance partner is identified at the Selection/Decision Stage, the

dimensions of expected effectiveness are identical to those found for perceived effectiveness. This allows detailed assessments of partner match and coordination, alliance management, potential net benefit and length of alliance relationship to influence the expectations of both parties.

A relationship is shown between expected and perceived effectiveness. This is consistent with literature on these constructs. Cadotte, Woodruff and Jenkins (1987) found a correlation between expectations and perceptions of performance. Olshavsky and Miller (1972) determined that performance evaluations are inclined to be similar to expectations in terms of direction (e.g., low-high; positive-negative).

Figure 2.6 also shows initial and secondary expectations that lead to expected effectiveness. These expectations are based on potential net benefit only since at these stages of alliance formation (Need Awareness and Search), an alliance partner has not been concretely identified. Without a specific partner in mind, expectations concerning match, coordination, effects of the length of the alliance relationship and alliance management can not be formulated. However, potential net benefit can be assessed and is established based on information gathered through Need Awareness and Search Stages. For example, in Need Awareness, the initiating organization may discover a benefit to alliances is a reduction in inventory. Based on that discovery, the organization will establish the expectation that if it forms an alliance, a reduction in inventory will result.

As the initiating partner finds more detailed information about alliances, potential net benefit also becomes more specific. For example, at the Need Awareness Stage, initial expectation may be based on a general potential net benefit such as inventory reduction. At the Search Stage, secondary expectations of potential net benefit are more detailed. This detail is derived from the findings of the Search Stage and by assessments of the small pool of potential alliance partners. An example is the expectation that a twenty percent reduction in inventory will result with a consequential investment in EDI capability. Potential net benefit for expected effectiveness (determined at Selection/Decision) would be even further solidified since the actual partner is selected and confirmed. Here, actual cost figures for asset specific investments and changes in the operating structure may be available as well as estimates of the savings from inventory reduction and other benefits.

OPERATIONAL COMPONENT

Bowersox et. al. (1990 and 1992) discussed how successful alliances share three operational characteristics or attributes to achieve external integration. These attributes are (1) formalization, occurring when operating rules and procedures are developed to guide the alliance; (2) information access, where partners formally agree and allow key information to be shared regularly without restriction; and (3) connectivity, where partners provide tailored information in a highly responsive manner, emphasizing ease of transfer (Bowersox, Daugherty and Lundrigan 1990; Bowersox et. al. 1992). The

attributes can be used as an evaluation of operating standards developed for the alliance.

Bowersox et. al. (1992) examined the evaluation of alliance operating performance through case interviews with eighteen companies in various industries. The authors concluded that alliances, which were perceived as successful, had high scores on each of the three attributes, and proposed that a minimum level of achievement in all three areas was necessary to achieved true intra-organizational integration. Each attribute will be discussed in detail below.

Formalization

Formalization refers to the development of operating plans, rules and procedures to guide day-to-day alliance activities. Not only does each partner have to create inter-firm operating rules and procedures, but they also have to develop intra-firm operating practices. While formalization has some connotation of rigidity, in actual practice, it can lead to a more flexible operating structure (Bowersox et. al. 1992).

Flexibility comes from the ability to formalize routine operating procedures such that time and creativity can be directed at tailoring operations to the needs of the customer or situation at hand. For example, suppose a material supplier has a very formalized selling program that segments logistical service offerings. In total, the supplier has twenty-five pre-approved logistical service packages that range from JIT delivery to one time ordering. Not every

customer is eligible to receive each service package due to individual customer needs, package costs and requirements.

Twenty-five standardized packages reduces the time the sales representative needs to customize a service package because the formalized practice enables the sales representative to match the customers' characteristics (e.g., needs, size, volume and ordering and delivery patterns) to the service package characteristics (e.g., benefits, volume, order size and delivery pattern). The sales representative does not need to develop a unique service package for each customer from scratch. Rather, the sales representative starts with an appropriate, pre-approved package and refines minor program issues to meet specific customer needs.

Formalization has two elements that positively impact the evaluation of operating standards: defined procedures and continuous performance measurement. Defined procedures enable the alliance partners to reduce duplication such that each partner knows exactly what its roles and responsibilities are and accountability is established (Bowersox et. al. 1992). This allows logistical functions and activities to be managed in an integrative manner and enhances the benefits of specialization.

Bowersox et. al. (1992) also discussed the need for establishing ground rules, including procedures for unexpected events. These emergency provisions aid in flexibility and responsiveness. Devlin and Bleackley (1988) discussed how the delineation of roles and responsibilities must translate to the individual level and that these roles and responsibilities must be tied to operating

objectives. Lucas and Gresham (1985) stated one cause of channel conflict is questions over operating domain. Well-defined and agreed to procedures should eliminate any questions or misunderstanding regarding each partners' roles, responsibilities and operating domain. Johnston and Lawrence (1988) suggested adherence to ground rules helps trust develop.

Dwyer, Schurr and Oh (1987) identified "measuring, specifying and quantifying" operational performance aspects as a key to successful relational exchange. This essentially equates to the need to develop operating performance measurements and then continually measure and improve those operational activities. Devlin and Bleackley (1988) discussed how continual monitoring and reporting of performance progress is an essential step toward achieving competitive advantage. Frazier, Spekman and O'Neal (1988) argued that not only is a specified performance measurement system critical, but also the system must include frequent, joint appraisal. In other words, each party must provide frequent feedback on the other party's performance in an effort to continuously improve the relationship and to jointly solve operational problems. Hendrick and Ellram (1993) found formal, detailed performance measurement procedures were in place and "taken seriously" by alliance partners and that these procedures continuously identified "potential areas for improvement in quality, service, and cost."

Information Access

Information access stipulates what kind of information will be shared between alliance partners and how frequently information transfer will occur. A key point to information access is that the sharing of critical information is not restricted to a select few. Rather, pertinent strategic and operational information is shared with all the individuals involved in the alliance. Further, capabilities for regularly sharing information are established.

Information access has two elements that positively influence the evaluation of operating standards: competence-based trust and cooperation. As discussed in the previous section (Strategic Component), partner coordination is achieved with character-based trust and cooperation. While partner coordination focused on strategic expectations, information access examines the day-to-day requirements necessary to adhere to operating standards.

Competence-based trust emerges from four sources: (1) *specific competence* in terms of specialized operational knowledge and skills; (2) *interpersonal competence* in terms of individuals' ability to effectively perform their responsibilities; (3) *competence in business sense* in terms of specializing in a specific area of expertise; and (4) *judgement* in terms of decision making ability (Gabarro 1978). These four sources of trust are consistent with achieving operating standards and focus on the necessary behavior or tasks that facilitate operating performance. For example, if one alliance partner does not believe the other has good business judgement, it is unlikely that this

partner will be trusted to make key operating decisions independently or on behalf of the other partner.

In this case, cooperation results at an operational level such that partners coordinate to achieve mutual operating standards. For example, suppose the carrier who delivers the material supplier's materials to the manufacturer continually has problems arranging dock appointments, so delivery is deemed late by the buyer. A cooperative solution could be arrived at if the material supplier, manufacturer and carrier meet and jointly develop a solution such as a standing appointment time. Pearson and Monoky (1976) tested and found high performing channels exhibited more cooperation than channels with lower performance levels. Gultinan, Rejab and Rodgers (1980) suggested that coordination is related to communication effectiveness (information sharing) and reductions in uncertainty that enable joint decision making in franchise channel operations.

Connectivity

The notion of connectivity has two aspects. First, connectivity implies that the alliance partners are highly responsive to special requests from each other (Bowersox et. al. 1992). Second, connectivity implies that communication between alliance partners is easily facilitated (Bowersox et. al. 1992).

Responsiveness requires both speed of interaction and precision such that problems or requests are handled quickly as well as accurately (Bowersox

et. al. 1992). In other words, responsiveness to a problem would mean that corrective action would be implemented immediately to ensure the problem was solved and the potential for reoccurrence was minimal. Responsiveness is related to willingness to fulfill a partner's special requests. Morgan and Hunt (1994) used the term acquiescence to describe "the degree to which a partner accepts or adheres" to such requests. The authors posited that acquiescence, termed as responsiveness for this dissertation, is an important contributor to "overall network performance."

The level of technology adoption facilitates ease of communication. However, as stated by Bowersox et. al. (1992), "sophisticated communication systems do not guarantee high levels of connectivity." Thus, in terms of technology adoption, the emphasis is on how the technology, regardless of whether it is fax or electronic data interchange (EDI), facilitates an easy transfer of accurate information -- not only what level of technology is used.

While EDI is perhaps the most direct technology to use in an alliance and is determined by Bowersox et. al. (1992) to be critical for establishing the strategic linkage necessary in an alliance, the technology used is not as important as the actual exchange of information. Slaninka (1994) provided key elements for supplier communication that illustrate this point. The first key is to "provide consistent, timely communication" and the third is to upgrade communications to electronic linkages (such as EDI) that speed information transfer (Slaninka 1994). Anderson and Calabro (1987) concluded from telephone interviews with fifty Fortune 500 companies that the most common

method of communication between partners at the time of the study was telephone, but EDI was growing in use.

Figure 2.7 illustrates the model for evaluating operating standards including all three dimensions. This model is viewed as an evaluation of adherence to operating standards in an alliance.

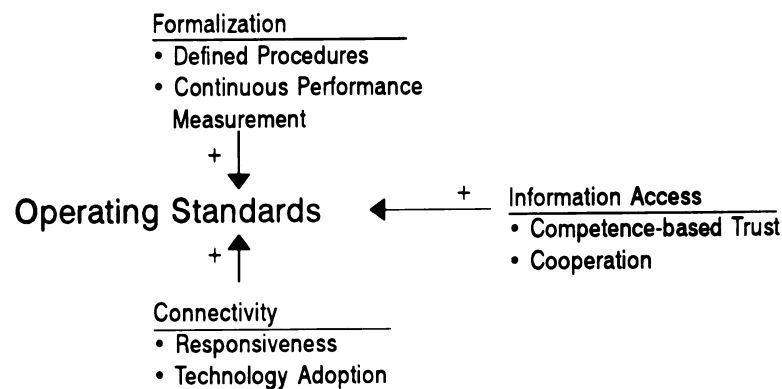


Figure 2.7
Evaluation of Operating Standards

PROCESS, STRATEGIC AND OPERATIONAL COMPONENTS

Figure 2.8 shows the stages of alliance formation and maintenance combined with the evaluation of operating standards and strategic effectiveness, creating the general alliance model. Note, the model contains a sequential appearance of operating standards not provided in the Bowersox et. al. (1992) framework.

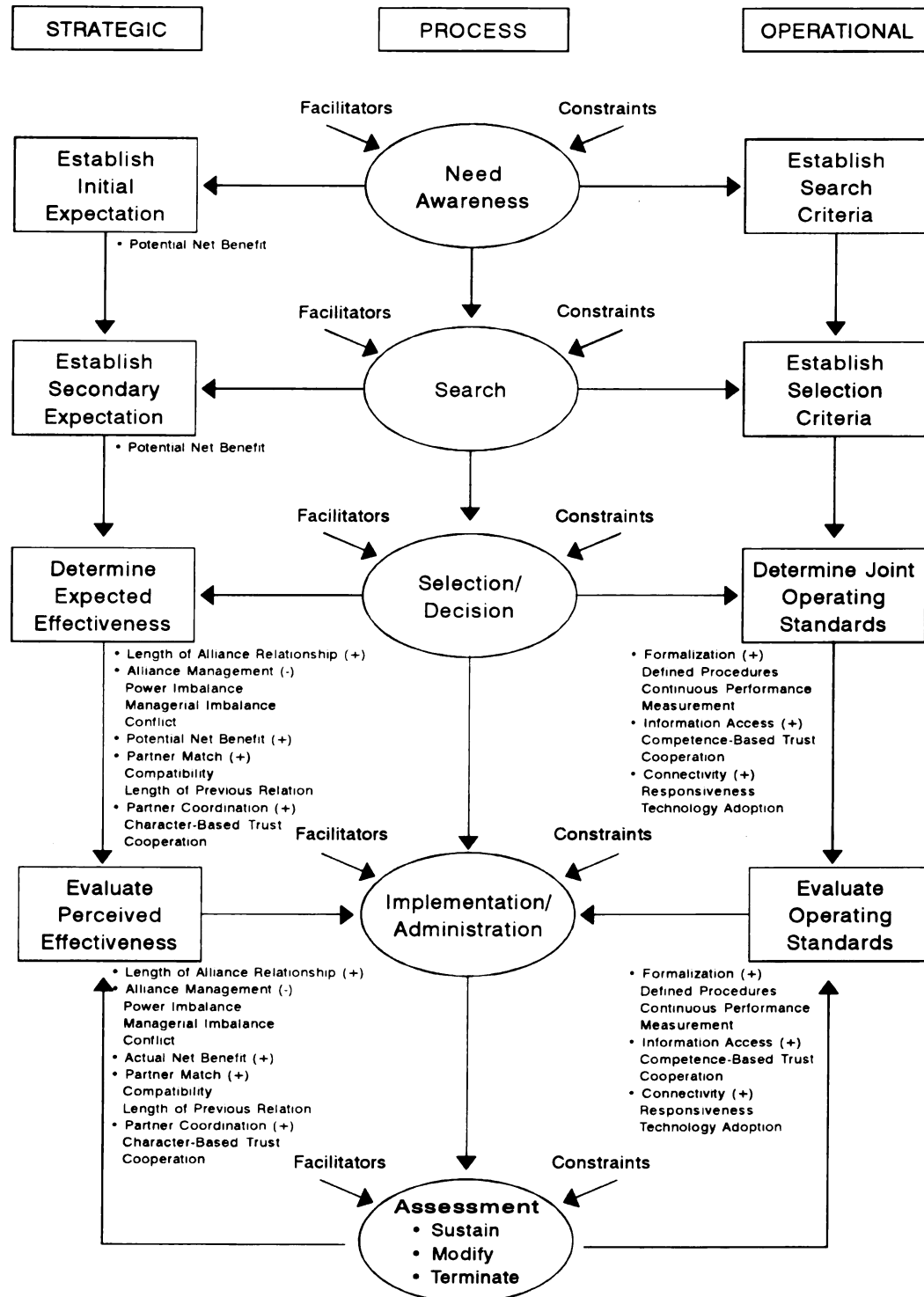


Figure 2.8
General Alliance Model

Since this dissertation focuses on the entire alliance progression, the evaluation of operating standards must coincide with alliance formation and maintenance. Formalization, information access and connectivity are operational attributes of alliance success, and their evaluation occurs at the Implementation/Administration Stage. In fact, the evaluation of these operating standards cannot be made until actual implementation occurs.

The expectations concerning operating standards are developed jointly prior to implementation at the Selection/Decision Stage. Before agreeing to form an alliance, both parties will want to understand each other's expectations concerning operating requirements and standards. Given this, the dimensions of formalization, information access and connectivity should be jointly discussed and appropriate standards should be developed.

Figure 2.8 also shows that search and selection criteria lead to the determination of joint operating standards. At the Need Awareness Stage, the initiating party is convinced that an alliance offers an improved system. Also, initial strategic expectations about the potential net benefit of this alliance are created. In order to complete the Search Stage, the initiating partner must establish search criteria. This criteria will focus on how to achieve the general benefits of an alliance as well as the necessary characteristics of an alliance partner. For example, the search criteria may include researching industry/general trade publications for alliance activity.

Establishing selection criteria is specific to the process for determining an alliance partner. Spekman (1988) discussed how evaluative criteria would

be used to determine a minimum or "threshold" level of characteristics. Any potential partners must meet or exceed this threshold level to be formally considered for an alliance. Selection criteria are developed during the Search Stage and used in the Selection/Decision Stage.

It is critical to describe the feedback mechanism at the bottom of the general alliance model given that all three components are now combined. Essentially, feedback starts at the Implementation/Administration Stage. Upon initial implementation, the alliance partners make evaluations of strategic and operational dimensions by comparing perceived and expected effectiveness as well as the adherence to pre-determined operating standards established in the Selection/Decision Stage. These comparisons represent an assessment of the alliance (Assessment Stage).

If the comparisons show a positive evaluation of strategic and operational dimensions, it is likely the alliance will be sustained as is. In this case, the alliance moves to Administration (Implementation/Administration Stage). Continual strategic and operational evaluations are made, assessed, and administered.

If the comparisons show a negative or neutral evaluation in either the Strategic or Operational Components, it is likely the alliance will be modified. The modifications will be determined and implemented at the Implementation/Administration Stage and a new assessment will be completed. Here, if the modifications are successful, the assessment will determine the alliance is sustainable, and continuous administration and assessment will

occur. If the modifications are not successful, new modifications or termination of the alliance will result.

If both strategic and operational evaluations are extremely negative, it is likely that the assessment will dictate the alliance should be terminated. Here, alliance partners jointly decide to end the collaborative relationship and the model is completed.

TERMINOLOGY

It is important to clarify terminology specific to the general alliance model to facilitate ease of reading and understanding. The general alliance model can be divided into three vertical components: Process, Strategic and Operational Components. Within the Process Component, five stages of alliance formation and maintenance are detailed. Within the Strategic Component, a perceptual measure of strategic effectiveness is proposed. This measure evolves from sequential steps that coincide with the Process Stages. Within the Operational Component, a perceptual measure of adherence to operating standards is proposed. This measure also evolves as sequential steps that coincide with the Process Stages.

The key words used will indicate which portion of the model is being discussed. For example, if the term component is utilized, it indicates the entire vertical portion of the general alliance model is being examined. Process, Strategic or Operational prefixes denote the specific component being evaluated. A stage is one of the elements within the Process Component that

describes the action or activity completed during alliance formation and maintenance (e.g., Selection/Decision Stage). A measure or step refers to the strategic or operational action denoted.

SUMMARY

This chapter positioned alliances through a typology and on the buyer-supplier continuum. The stages of the alliance formation and maintenance were identified and combined with evaluations of strategic effectiveness and operating standards to create the general alliance model. The review of applicable literature and development of the general alliance model enabled research questions to be developed in Chapter III.

CHAPTER III

RESEARCH METHODOLOGY

This chapter reviews the research methodology used in this dissertation. The chapter begins with the research questions. Next, support for the use of dyadic case studies and corresponding data analysis techniques is provided. The research sample and selection procedures are also discussed.

RESEARCH PURPOSE

The purpose of this research was to investigate logistical alliances between manufacturers and material suppliers to determine the stages of alliance formation and maintenance. Characteristics that facilitate and constrain alliance success during the stages were identified and corollary strategic and operational evaluations were examined for their effect on alliance assessment.

The goal of this research was to develop a general alliance model for academic and managerial use. This general model provides managerial guidelines for logistical alliance formation and maintenance.

RESEARCH OBJECTIVES

The specific objectives of the research were as follows:

1. To identify the stages of alliance formation and maintenance between manufacturers and material suppliers;
2. To identify characteristics that facilitate and constrain alliance success during formation and maintenance;
3. To identify strategic expectations and effectiveness that accompany alliance formation and maintenance and are used in alliance assessment;
4. To identify operational criteria and standards that accompany alliance formation and maintenance and are used in alliance assessment;
5. To develop a general alliance model;
6. To evaluate and refine the general alliance model with dyadic case studies; and
7. To generate topic areas for further research in alliances.

RESEARCH QUESTIONS

The research attempted to answer the following questions which are grouped into three components: the Process, Strategic, and Operational Components. These components are the main tenets of the general alliance model.

PROCESS COMPONENT

1. To what degree do logistical alliances between manufacturers and material suppliers progress through the five stages hypothesized in the Process Component?

2. What facilitators and constraints influence each stage of the alliance?
3. To what degree is an assessment made of strategic effectiveness and adherence to operating standards?
4. What promotes alliance extension beyond the original mission or goal?
5. What are reasons for terminating the alliance?

Previous research was synthesized to develop the five stage alliance Process Component described in Chapter II. No formal tests of relevance have been performed to determine if alliances proceed through these stages or if the stages are sequential. Thus, participants were asked to describe the stages of alliance development and to identify how important each stage was in overall alliance formation and maintenance.

If firms progress through the stages identified in the general alliance model, they will differentiate between the stages based on the required activities and the facilitators or constraints of each stage. Questions concerning these facilitators and constraints are broken out for each stage.

Need Awareness

Activities that may influence the Need Awareness Stage include the following:

1. Environmental uncertainty from a shift in power to retailers and from supply/demand instability.
2. The ability for the alliance partners to leverage capital.

3. The potential to gain access to target markets and the global arena.
4. The ability to stabilizing supply/demand.
5. The possibility of gaining access to new, innovative technologies.
6. The ability to reduce inventory.
7. The potential to improve leadtime performance.
8. The ability to increase the level of involvement with customers.
9. The possibility of improving product/service quality.
10. The potential to gain a sustainable competitive advantage.
11. The ability to exploit a core competency.

Participants were asked if any of the activities listed above influenced their decision to form an alliance and, if so, how important the activity was to the alliance. Also, participants were asked to describe other influential activities, beyond those listed above, that were critical to this stage.

Search

Factors which may influence this stage are alternative sources and criticality of product/service. Participants were asked to discuss what factors facilitated or constrained the Search Stage. If influential, participants were asked to discuss the importance of the factor.

Selection/Decision

Influential activities that may affect partner selection and/or the ultimate sourcing decision are visible investments required and contractual arrangements needed. Each activity was assessed to determine if it had an impact and how important that influence was to partner selection and the final sourcing decision.

Implementation/Administration

Visible investment and contractual arrangements may influence this stage as well. The existence of barriers to exit is another factor to consider. Each issue was assessed to determine if it had an impact and how important that influence was to implementation and/or administration.

Assessment

The same issues that have the potential to affect Implementation/Administration may be influential during Assessment. Potential impact and importance of each issue was examined.

STRATEGIC COMPONENT

1. To what degree do strategic expectations evolve as the alliance progresses and lead to expected effectiveness?
2. How is expected effectiveness determined?
3. Do firms compare perceived effectiveness to expected effectiveness?

4. What elements of effectiveness promote long term survival, through sustainment or modification, of the alliance?

The questions address the development of expectations and effectiveness as well as the extent that expected and perceived effectiveness are compared at the Implementation/Administration Stage. Participants will be asked whether this comparison is made and how it affected the Assessment Stage.

OPERATIONAL COMPONENT

1. To what degree do criteria evolve as the alliance progresses and lead to operating standards?
2. How are joint operating standards determined?
3. Do firms compare actual operating standards to initial operating standards?
4. What operating standards promote long term survival, through sustainment or modification, of the alliance?

The questions address the development of criteria and operating standards as well as the extent that initial and actual adherence to operating standards is assessed at the Implementation/Administration Stage. Participants will be asked whether a comparison is made between actual and initial operating standards and how the comparison affected the Assessment Stage.

UNIT OF ANALYSIS

Achrol, Reve and Stern (1983) focused on the transaction as the fundamental activity in channel structures and utilized a dyadic perspective in

order to study transactions. Concentrating on dyads allows the researcher to understand "the basic transaction or acts of exchange between pairs of social actors" (Achrol, Reve and Stern 1983). The authors also stated such dyadic understanding is a method for developing and testing theory.

Achrol, Reve and Stern (1983) defined a dyad as occurring "whenever direct, goal-oriented social interaction occurs between actors in a channel." Transactions between these actors involve social (e.g., information, goodwill, influence) and economic (e.g., physical product, money) portions. Intra-channel alliances represent exchange that provides mutual benefit and enables joint goal attainment. Transactions go beyond economic factors to include integration and boundary spanning social activities. Therefore, this research utilizes the dyad as the main unit of analysis by focusing on alliances between manufacturers and material suppliers.

CASE METHODOLOGY

Bonoma (1985) positioned various research methods on a two-dimensional graph with axes representing high and low measures of data integrity and currency. Data integrity is concerned with research characteristics that "affect error and bias" (Bonoma 1985). Data integrity is equivalent to Campbell and Stanley's (1963) term internal validity. Currency is concerned with research characteristics that "affect the contextual relevance of findings *across* measures, methods, persons, settings, and time" (Bonoma 1985; original emphasis). Cook and Campbell (1979) referred to currency as external

validity. Tradeoffs between internal and external validity exist as pointed out by Campbell and Stanley (1963) who discussed that no research method, used alone, is able to provide high levels of both data integrity and currency.

Given this tradeoff, it is important to determine the research goals prior to deciding the apparent research method to use. For this dissertation, the goal was to explain alliance progression to provide a managerial framework for alliance formation and maintenance. Yin (1989) compares case studies to other research methods and concludes:

"case studies are the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context."

This dissertation focuses on the "how and why" of alliance formation and maintenance. Specifically, the dissertation will examine how alliances are developed and explain why an implementation gap exists between anecdotal and actual evidence. The researcher has little control over these formation events as the alliances studied are already operational. As discussed in Chapter I, alliances are an important and increasingly viable business alternative. Using the dyadic perspective preserves the "real-life context" of alliance behavior. Thus, case study provides an acceptable research method for this dissertation.

Case studies contribute high levels of currency, but low levels of data integrity, and are concerned with "theory building" as opposed to "theory disconfirmation" (Bonoma 1985). Bonoma (1985) stated that theory building is a more relevant research purpose when "theoretical development is scant or

uncertain" as is the current state of literature on alliances. The ability to describe alliances in-depth provides an initial theory from which further hypotheses can be generated and tested.

Hunt (1991) echoed the distinction between building and disconfirming theory in his discussion on the delineation between the logic of discovery and the logic of justification. Hunt (1991) stated the logic of discovery is used to discover hypotheses, laws and theories, while the logic of justification is used to accept or reject hypotheses, laws and theories. Thus, in the context of justification, the researcher attempts to explain and predict phenomena as well as empirically test them through scientific methods, but in the context of discovery, the researcher's goal is to uncover phenomena through observation and speculation. Hunt (1991) stated one distinguishable difference between discovery and justification is that there is not one correct method for discovery, but, for justification, *"there exists a single logic of justification which is common to all science"* (original emphasis). The case method is one of many techniques for uncovering phenomena in the logic of discovery.

Gummesson (1991) concurred with the importance of case studies and stated that they are useful for "studying processes in companies and also for explanatory purposes." The author also discussed the real value of case research is the holistic description of events that furnishes practitioners with tools or guidelines. This allows theories to be "grounded in actual empirical observations rather than governed by established, traditional approaches" (Gummesson 1991).

Grounded theory is an approach to case research that is inductively derived. In other words, the theory is "discovered, developed, and provisionally verified through systematic data collection and analysis of data" (Glaser and Strauss 1967; Strauss and Corbin 1990). This allows the researcher to uncover complex details of a phenomenon or series of events that would be infeasible with typical quantitative methods (Strauss and Corbin 1990).

The method for deriving grounded theory begins before any data is collected by developing an initial theory. Chapter II serves as this step. Next, the protocol that will be utilized to collect and code data are developed and case participants are selected. Once data collection is complete, the cases are analyzed. Yin (1989) described pattern-matching as the "most desirable (analysis) strategy (analysis added for clarity)."

Pattern-matching involves comparing theory to actual observation. If predicted observations are found and alternative values (patterns) are not found, strong casual inferences can be made (Yin 1989). In other words, expected "patterns" are compared to actual "patterns" to determine if a match is found that will provide causal evidence to link theory and practice.

Patterns are also developed when multiple case studies show a replication logic. If cases produce similar results, literal replication is provided, and if cases produce results that are "contrary, but for predictable reasons," theoretical replication exists (Yin 1989). Replication, in either form, produces "compelling support" for initial theories and provides the means for disconfirming theory (Yin 1989).

Yin (1989) developed a typology for case studies based on two dimensions: (1) single or multiple-case designs; and (2) single (holistic) or multiple (embedded) units of analysis. The single versus multiple-case design is determined by the number of cases examined. With more than one case, a multiple-case design is appropriate and allows replication to be assessed.

If the unit of analysis is at one level, a holistic approach is taken. Multiple units or subunits illustrate an embedded approach. An example of a unit may be the organization, functional groups within the organization or individuals within those functional groups. This dissertation will involve multiple cases (three dyadic cases) with a holistic unit of analysis (the manufacturer-material supplier dyad).

DATA COLLECTION

Yin (1989) described six sources of case study evidence: documentation, archival records, interviews, direct observations, participant-observation and physical artifacts. Yin (1989) also discussed the three forms of interviews: open-ended, focused and structured which are similar to formal questionnaires. This dissertation used focused interviews, interview questionnaires, documentation and direct observation to collect case study evidence. Each source of evidence will be described below in order of its importance to the case study analysis.

Multiple sources of evidence are critical for increasing construct validity (Yin 1989). Multiple sources of evidence, if collaborated, provide multiple

measures of the same phenomena as required to achieve construct validity. Further, using multiple sources of evidence allows a "broad range of historical, attitudinal and conversational issues" to be investigated (Yin 1989).

Table 3.1 identifies other threats to validity that are possible when performing case study research. This table is adapted from Yin (1989) and describes the tactics for responding to validity concerns. This dissertation will follow the methods described in the table.

Table 3.1
Case Study Tactics to Respond
to Validity Threats

<u>Validity Concern/ Definition</u>	<u>Tactic to Use</u>	<u>Resolution Explanation</u>
Construct Validity - Concern with instrument measure (Churchill 1991)	Multiple Sources of Evidence	Provide convergent lines of inquiry and multiple measures of the same phenomena
Internal Validity - Ability to attribute a causal, as opposed to a spurious, relationship between variables	Pattern Matching	Compare empirically based patterns to predicted patterns to show replication
External Validity - Ability to generalize beyond the immediate study	Replication Logic	Use multiple cases
Reliability - Ability to repeat the data collection methodology and achieve the same results	Case Study Protocol	Document case study protocol that are operational and easy to repeat

FOCUSED INTERVIEWS

One of the most critical sources of information in a case study is the interview (Yin 1989; Easterby-Smith, Thorpe and Lowe 1991). One form of interview used in this dissertation is described by Yin (1989) as the focused interview. Here, the respondents are interviewed for a short period of time, questions are open-ended and conversational, and the interviewer guides the discussion with a standard set of questions. For this dissertation, the interviews were conducted primarily in face-to-face meetings and lasted two to three hours. The meetings were held at the participants' facilities. Typically, a main location was chosen where multiple interviews could be facilitated during one visit. In select cases, interviews were conducted over the telephone because a meeting could not be scheduled with the participant during the visit to the main facility or the interview candidate was located in a remote facility. Twenty-six face-to-face and four telephone interviews were completed. Ten visits were required to complete the personal interviews as some companies had key contacts in multiple locations.

A standard set of questions, designed to elicit conversation and encourage a broad range of discussion, was used to guide the interviews. The interview questions facilitated open discussion about alliance formation, evaluation and maintenance. Discussion also centered on the determination and evaluation of strategic expectations and effectiveness as well as operational criteria and standards. The questions were compiled in an interview

guide (see Appendix A). This guide was used to conduct both face-to-face and telephone interviews.

The role of the interviewee was as an informant as opposed to a respondent based on Yin's (1989) assessment that informants use their "own insights concerning occurrences." Tremblay (1982) described the key informant technique and its roots in anthropological research. The author stated that key informants serve as a "primary source of information" to gather "qualitative and descriptive data that are difficult or time-consuming to unearth through structured data gathering techniques such as questionnaire surveys." Seidler (1974) described key informants as a "small number of knowledgeable participants, who observe and articulate social relationships for the researcher," which is advantageous since the research is conducted at a structural, as opposed to a personal, level. Seidler (1974) described how informants are able to report "patterns of behavior, after summarizing either observed (actual) or expected (prescribed) organizational relations." The information and patterns gathered from key informants are critical to understanding overall alliance formation and maintenance.

Further, informants provide suggestions for other sources of evidence and may initiate access to these sources (Tremblay 1982; Yin 1989). In this dissertation, each manufacturer selected its best material supplier alliance, helped establish a contact at the supplier, and confirmed the supplier's agreement to participate. Informants were told which individuals were scheduled to participate in the dissertation both at their firm and at their

partner's firm and were asked to suggest additional key individuals for interview.

It is important to note that multiple informants were used within each dyad such that individuals at various levels were included in the case study. This allowed a range of informants to participate which provided strategic and operational perspectives. These perspectives could be matched across participants within each organization as well as across alliance relationships to enable valuable insight into alliance formation and maintenance issues. Potential informants included the following: senior level logistics executives, directors, buyers, sales representatives, production personnel and customer service analysts. Figure 3.1 provides an overview of the potential informants included in the interview structure and illustrates the ability to achieve dyadic perspectives on strategic and operational concerns. Multiple informants within the same organization and across alliance relationships allowed the opportunity for convergent lines of inquiry to develop which enhances construct validity (Table 3.1). A statement of the types of questions and samples are provided in Table 3.2 for various participants at each level of the organization. The questions are divided into the components of the general alliance model.

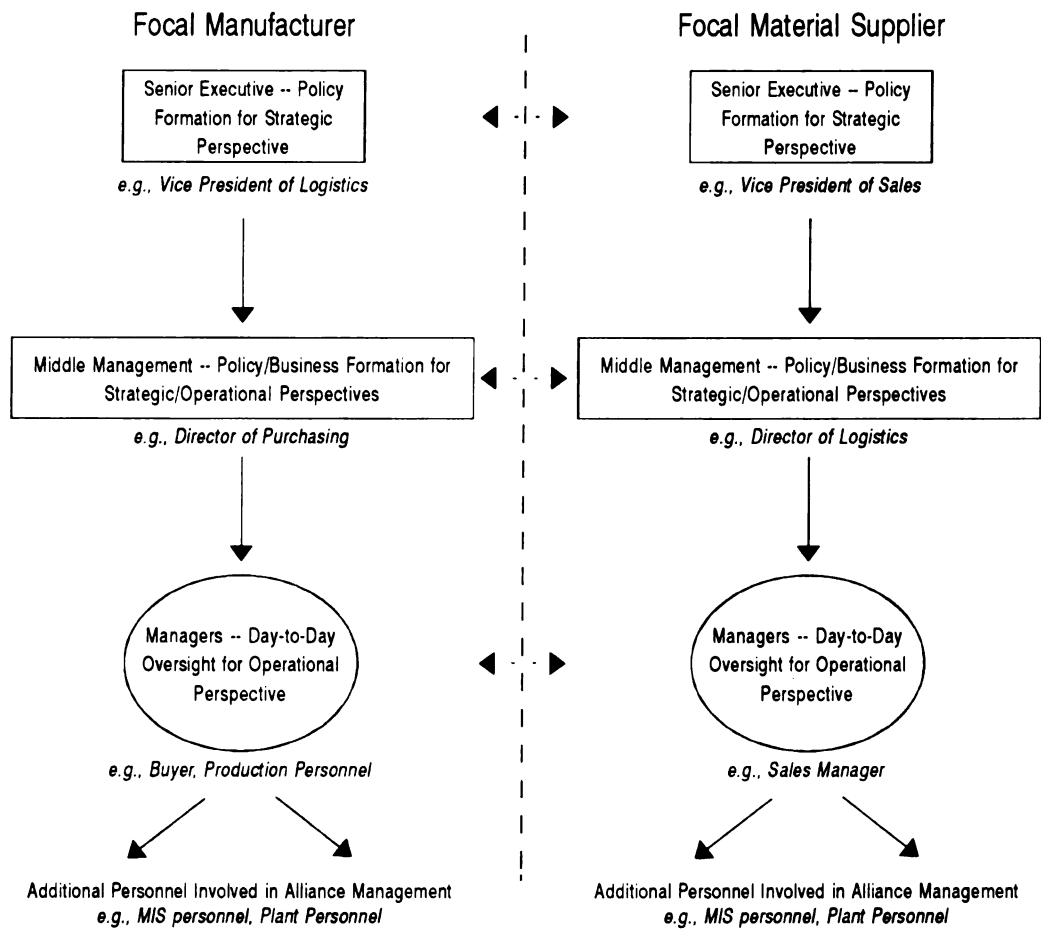


Figure 3.1
Dissertation Interview Structure

Table 3.2
Questions Divided by Component and Informant Level

Informant Position	Process Component	Strategic Component	Operational Component
Senior Executive	<p>Questions focus on alliance policy formation</p> <ul style="list-style-type: none"> How did the idea to form an alliance originate? How did your firm determine an alliance was needed? 	<p>Questions focus on strategic positioning of the alliance -- key area for these informants</p> <ul style="list-style-type: none"> Describe how expectations for the alliance developed? What is your firm's strategic vision for the alliance? 	<p>Questions focus on operational characteristics as they relate to strategy</p> <ul style="list-style-type: none"> How is the alliance managed? How is performance measured and are these measures shared with the partner?
Middle Management	<p>Questions focus on developing alliance policy and conveying operational practices -- key area for these informants</p> <ul style="list-style-type: none"> How did the idea to form an alliance originate? Were criteria developed to aid in partner selection? 	<p>Questions focus on defining goals as operational actions</p> <ul style="list-style-type: none"> Has the alliance met strategic goals? What were the costs and benefits of forming this alliance? 	<p>Questions focus on conveying strategy through operational practices</p> <ul style="list-style-type: none"> How is performance measured and are these measures shared with the partner? What other information is shared and how frequently?
Managers with Daily Oversight	<p>Questions focus on how the alliance changed operating practices</p> <ul style="list-style-type: none"> What changes occurred in your firm's practices during alliance implementation? What problems exist that hinder or limit alliance success? 	<p>Questions focus on the perception of strategy and its relation to operations</p> <ul style="list-style-type: none"> Are the benefits balanced between the partners? How do you work with the partner to accomplish goals? 	<p>Questions focus on operating procedures and how they accomplish goals and objectives -- key area for these informants</p> <ul style="list-style-type: none"> Are operating procedures detailed and in written form? What information is necessary, but not shared?

INTERVIEW QUESTIONNAIRES

At the conclusion of the interviews, select informants were given a formal questionnaire to complete in private. The questionnaire consisted of structured questions that concentrated on specific aspects of the general alliance model. The estimated time for completing a questionnaire was fifteen to twenty minutes. Appendix A includes the structured questionnaire.

Informants were provided a questionnaire if they were primary contacts for the alliance and had strategic/operational responsibilities. Executive-level managers and informants who were not currently involved as key contacts were not asked to complete a questionnaire. Questionnaires were disseminated to twenty informants. When the informants completed the questionnaire, it was returned via fax or mail. Respondents were asked to indicate the name of their company as identification. The individual's identity was not requested.

The questionnaire data was used as collaborative evidence for the interviews as well as a pretest for a full scale questionnaire of the model. Both the focused interview questions and the interview questionnaire are provided in Appendix A.

DOCUMENTATION

Documentation is the third source of information gathered in the case studies for this dissertation. Yin (1989) stated that this type of information can take a variety of forms, including letters, meeting agendas, written reports, proposals and progress reports. Informants were asked to provide any business

documents that tracked alliance formation progress or evaluated alliance effectiveness and/or adherence to operating standards. For example, one informant provided a copy of presentation overheads that illustrated the history of the alliance and quantified benefits, such as inventory reductions and estimated dollar savings.

A profile was prepared on each company from secondary data sources including annual reports and articles from business and trade press. This information was used to prepare for the focus interviews and to understand the business environment, products and demographic characteristics of each participating firm.

DIRECT OBSERVATION

The face-to-face interviews occurred at the informants' business location. This allowed direct observation to be used to infer cultural and organizational issues and structure. Further, plant and dock tours were possible if the informant was located near pertinent facilities. These tours allowed the researcher to directly view production systems, inventory levels and delivery points to gauge logistical sophistication.

CASE STUDY PROTOCOL

Yin (1989) described case study protocol as an instrument containing the case and field guidelines and the rules for collecting evidence and conducting interviews. The protocol includes four topic areas: (1) overview of the study,

including objectives and issues; (2) field guidelines; (3) case study questions; and (4) format for completing case study reports. The case study protocol is a tool to aid the researcher in performing reliable investigations, preparing for field interviews, and analyzing and writing the case studies. The case study protocol developed for this dissertation is provided in Appendix B. The case study protocol was reviewed as a basis for conducting the interviews. As shown in Table 3.1, a case study protocol enhances reliability.

DATA ANALYSIS

Strauss and Corbin (1990) provided a coding protocol to develop grounded theory which involves three steps: (1) open coding; (2) axial coding; and (3) selective coding. This protocol was utilized for this dissertation. Open coding involves breaking the data down to facilitate examination and conceptualization. The data is categorized based on comparisons of similarities and differences. Categories are given labels that illustrate these similarities.

Axial coding combines the data in "new ways" by making logical connections between categories (Strauss and Corbin 1990). These connections are formed based on the causal relations, context, external conditions and interaction between categories (Strauss and Corbin 1990). Categories may be given more detail in terms of their unique properties and characteristics.

The final step, selective coding, creates a core category that explains the main phenomenon of the case. This core category is developed by integrating

the other categories into a higher level of abstraction. At this point, the data is at a "broad conceptual level" and each category has "property and dimensional levels" (Strauss and Corbin 1990). This provides a comparison of data to theory for grounding. This coding protocol can be envisioned as a pyramid where the first step (open coding) builds the foundation for the structure by combining the case evidence. The middle section (axial coding) organizes the evidence into a higher level of abstraction and understanding. Finally, the pinnacle is created (selective coding) by integrating the categories in a new, unique manner to explain the essence of the research findings.

GENERALIZABILITY

One criticism of case studies is the lack of generalizability of the findings (Kennedy 1979; Bonoma 1985; Yin 1989; Gummesson 1991). This criticism stems, in part, from a confusion as to the types of generalization. Generalization from cases is different than generalization from statistical samples (Yin 1989; Gummesson 1991). Yin (1989) stated that case studies are generalizable to theories (analytic generalization) not to populations to increase frequency of occurrence (statistical generalization). Analytic generalization occurs when an initial theory is compared to empirical results (of case studies) such that replication logically supports the theory (Yin 1989).

Bonoma's (1985) tradeoff of data integrity and currency essentially identifies this tradeoff between statistical and analytical generalization, where laboratory experiments (high data integrity) provide statistical conclusion

validity and case studies (high currency) provide real world validity or analytical generalization. As such, case research enables theoretical generalizations from observations to be tested and validated (Bonoma 1985). Real world validity is also a concern for Gummesson (1991) who compared validity to a map in that both accurately describe reality. In other words, theory derived from case research is valid if it accurately describes the real-life context of the phenomenon or series of events.

Kennedy (1979) discussed the "strength of generalizability" as equivalent to the strength of external validity. This strength is a function of the number of units observed and the range of characteristics and conditions under which observation occurred (Kennedy 1979). The author also stated a wide range of characteristics and conditions promotes generalization across a wider population with the same characteristics and inferences to populations "assumed to be sufficiently similar." Since this dissertation utilizes three dyadic case sets across two channel levels, a wide range of characteristics, attributes and conditions will be assessed to strengthen generalization of the findings. Further, multiple cases and multiple informants within each case provides generalization and real-world validity through replication.

SAMPLE SELECTION

Sampling methods can be categorized by two types of samples: probability and non-probability samples. Probability samples are derived through random selection procedures. Non-probability samples include personal

judgement at some point in sample selection and are used when certain criteria are explicitly required (Emory 1985; Churchill 1991). More specifically, Tremblay (1982) described sampling key informants not randomly "from the universe of characteristics," but rather, selectively based on "specialized knowledge of the characteristics."

Since this dissertation focuses on alliances between manufacturers and material suppliers, it requires non-probability sampling to ensure two elements are present in the sample. First, this form of sampling certifies that the participants are at the correct level within the channel (i.e., manufacturer and material supplier). Second, this form of sampling ensures the parties are actively involved in developing/maintaining an alliance.

The specific form of non-probability sampling used is called judgement or purposive sampling. Here, participants are selected who can "offer some perspective on the research question" so they contribute to the research purpose (Churchill 1991). In this manner, expert judgement is used to confirm the participants correspond to the required conditions (Emory 1985; Gay and Diehl 1992). Purposive sampling is acceptable for exploratory research where sampling error is not a critical concern (Emory 1985; Churchill 1991; Gay and Diehl 1992).

Three manufacturers who were involved in collaborative relationships with material suppliers were asked to identify their best material supplier alliance. This provided a sample set of three dyadic relationships. Informants at each firm who were currently involved in the alliance were selected to

participate in the research. These initial informants were asked to identify other individuals that they felt should be included in the sample. These directive referrals expanded the sample set and ensured essential contacts were interviewed.

SUMMARY

This chapter reviewed the research design, beginning with research purpose and questions. The unit of analysis is the dyadic relationship between manufacturers and material suppliers in an alliance. A multiple-case, holistic approach will be utilized for the case research. Aspects of case research, such as coding methods, generalizability and sample selection, were discussed.

CHAPTER IV

RESULTS

This chapter details the case research interviews and analysis. The thirteen research questions, broken out by the components of the general alliance model, are explored and answered.

CASE RESEARCH INTERVIEWS

Three manufacturers operating in the grocery industry participated in the dissertation research. These manufacturers were selected based on the premise that they were among best practice leaders in collaborative arrangements as determined by expert opinion and previous research at Michigan State University. Further, these manufacturers were actively involved in alliances with material suppliers.

Each manufacturer chose one material supplier alliance which they felt exemplified their best relationship to be the focus of the research. To protect the participants' identity and to maintain confidentiality, the participating companies and the three dyad relationships will not be identified and discussion of the research questions will not reveal specific company or informant identity. Table 4.1 shows the informants' organizational positions.

Table 4.1
Organizational Position of Key Informants

Manufacturers

Manufacturer A

- Vice President Logistics
- Corporate Associate Director
- Senior Purchasing Manager
- Corporate Buyer
- Department Manager
- Plant Material Management Group
(included 4 people)

Manufacturer B

- Vice President Logistics
- Director Materials Management
- Divisional Purchasing Manager
- Divisional Purchasing Agents
(included 3 people)
- Divisional Senior Production
Planner

Manufacturer C

- Vice President Logistics
- Director of Distribution
- Distribution Manager
- Corporate Purchasing and
Administration Manager

Material Suppliers

Material Supplier A

- National Account Sales Manager
- Customer Service and Distribution
Manager

Material Supplier B

- Director Corporate Logistics
- Corporate Business Support
Manager
- Corporate Account Manager
- Material Control/Systems
Manager
- Customer Service Administration

Material Supplier C

- Vice President and General Sales
Manager
- Vice President Regional Sales
- Sales Representative

RESEARCH TERMINOLOGY

To facilitate explaining the research results, specific terminology must be clarified. This dissertation evaluated three dyadic arrangements between manufacturers and materials suppliers. In one dyad, two of the manufacturer's divisions were included because both were conducting business with the focal material supplier. Given this, four alliance relationships were studied.

For clarification, the term dyad will be used to describe the cluster of information (e.g., informant interviews, questionnaires, documentation) concerning the overall manufacturer-supplier relationship. The term alliance will describe the cluster of information critical to the specific manufacturer/division-supplier relationship. For example, if four informants were interviewed at the manufacturer and two at the material supplier, the information referring to this alliance will be consistent with the views of all six people. If the terminology used is "one side of the alliance" then the information is consistent with the views of four or two people depending on whether the perspective is from the manufacturer or material supplier, respectively.

Informants are individuals whose views may (or may not) be representative of the cluster of information. Information provided from an informant is based on that individual's unique perspective. Informants' views are used to illustrate distinctive points or examples and to highlight similar or different perspectives compared to the cluster of information.

Another important qualification is required in terms of the questionnaires. While the response rate for the questionnaires was high (eighty percent), the

number of respondents who were asked to complete the questionnaire was low (twenty people were given a questionnaire and sixteen completed questionnaires were received). Thus, the data from the questionnaire was used as supporting evidence to achieve convergent lines of inquiry for the interviews, not to run statistical analysis. As such, the complete results of the questionnaire will not be available in this dissertation, but were used to aid in construction of the case reports and for verification of informant interviews. Throughout this chapter, references to specific questions and the corresponding mean responses will be discussed to provide unique insight into the concept being addressed.

Questionnaire data is grouped such that an average response is calculated for each firm, providing six by-company means for each question. For example, if four informants from Manufacturer A completed a questionnaire, their responses were combined and the mean response was used as collaborative evidence.

CASE ANALYSIS METHODS

During the informant interviews, detailed notes were compiled. These notes were combined with the interview questionnaires, documentation and direct observations to construct a case report for each alliance which was completed in compliance with the Case Study Protocol presented in Appendix B. These case reports are not published as part of this dissertation to protect company identities and confidentiality.

Analysis of the case reports was initiated utilizing open coding methods (Strauss and Corbin 1990). Data from the case reports was examined and information within and across the four alliances was compared. The comparisons illustrated similarities and differences in perceptions, activities and events and showed where anomalies occurred. Categories matching activities in the general alliance model were used to group the data. This facilitated coding by condensing the data into organized units which could be analyzed individually. Each category was given a label (e.g., contractual arrangement), properties describing category characteristics or attributes were developed (e.g., extent of contract, frequency of renewal) and a continuum or scale was created for each property (e.g., formally written -- verbal -- no contract; monthly -- annually -- long term).

The second analytical step, axial coding (Strauss and Corbin 1990) builds on the categories created and defined in open coding. Some of these categories described events (e.g., Need Awareness Stage) while others referred to conditional factors that affected the events (e.g., facilitators). Linkages were constructed across the original categories to determine causal relations and identify interaction. New categories were created that model sets of relationships, external factors and outcomes. These relationships mirrored the three components of the general alliance model.

Finally, the outstanding characteristics of each alliance and the overall research results were concluded based on integrating the categories at a broader conceptual level. This conceptual level of analysis, called selective

coding (Strauss and Corbin 1990), began by examining the sets of relationships created in axial coding. From these relationships, a core relationship was constructed. For this research, the core relationship was based on alliance formation and maintenance stages. This core relationship was used to create a "story" of each alliance progression which placed important events and decisions in sequential order. This detailed account formed an alliance development pattern. The individual alliance patterns build upon or validate the theory by matching the theoretical model to actual data patterns (Yin 1989). The conclusions of this pattern matching become the research results.

Since four alliance patterns were generated, replication was facilitated. Yin (1989) promoted the use of replication to enhance external validity and generalizability. Yin (1989) stated that multiple cases, similar to multiple experiments, provide literal replication when similar results are found or theoretical replication when contrary, but predictable, results are achieved. The majority of the case results provided literal replication of the general alliance model. Theoretical replication was also found in a few instances.

The remaining portion of this chapter is organized around the research questions presented in Chapter III. The order of presentation is divided by the three components of the general alliance model. It is important to note that the format for discussing each research question is variable. When the question involves complex discussion of various concerns, sub-headings are provided to facilitate ease of reading. For example, to explain the facilitators and constraints affecting each stage of the alliance, headings were used to organize

the discussion around the relevant stage. When explanation is simplified by combining issues, no headings are used. For example, when discussion is centered around one event, such as long term survival, transitional breaks are not required.

PROCESS COMPONENT

Research Question One dealt with the five process stages: (1) Need Awareness; (2) Search; (3) Selection/Decision; (4) Implementation /Administration; and (5) Assessment. The question was as follows: **To what degree do logistical alliances between manufacturers and material suppliers progress through the five stages hypothesized in the Process component?**

The interviews began with the informants describing their background with their company as well as with their alliance partner. This discussion enabled a profile of both companies in the dyad to be created to understand the environment in which the alliance was established. In all alliances, there was a history of business interaction prior to the creation of the alliance relationship. In two alliances, the pre-collaborative relationship had spanned fifteen to twenty years. Some informants had been involved with each other since the beginning of the relationship. In another alliance, the business interaction began ten years prior to the alliance when the manufacturer agreed to test a sample of the supplier's materials. The relationship grew from the successful trial runs and increased steadily until the alliance was formed. In the final alliance, the manufacturer awarded the supplier business on a specific product

line and, at the same time, initiated an alliance arrangement. These partners had prior business interactions, but not on the aforementioned product line.

In all three dyads, the manufacturer initiated the alliance. However, it was clear that the alliance evolved from a previously successful business relationship in two of the dyads. The third dyad resulted when competitive bidding was used to select the alliance partner.

The main motivation driving the establishment of all the alliances was a shift in the manufacturer's basic procurement strategy. However, the shift was different in each dyad. One shift was to implement supply base reduction to achieve fewer or sole sources in many product lines. Another change in practice was to focus on giving a current sole source of critical materials more responsibility by becoming involved in managing production operations. The final dyad resulted from a shift in the type of material used in the manufacturer's production system and a relaxation of geographic sourcing requirements. Each new procurement strategy focused on the use of alliances to resolve current supply problems and introduce new operational opportunities.

Four common goals motivated these three distinct shifts: (1) the desire to reduce cost; (2) the desire to gain competitive advantage; (3) the need to improve quality; and (4) the desire to develop a stable supply of material. An additional goal of inventory reduction was critical in one alliance while technical access was critical to another.

Motivated by the desire to "lock in" the customer, all three suppliers eagerly agreed to form the alliance. The alliance was viewed as an opportunity

to create a unique relationship with the manufacturer based on value-added service. This collaborative relationship was perceived by the material supplier to create high switching costs that would make it difficult for the manufacturer to change suppliers. In short, the alliance could be a source of competitive advantage. Two dyads viewed the alliance as a way to increase business through enhanced customer satisfaction. The alliance could increase sales volume and improve profit margins through potential cost reductions. The alliance was expected to provide more stable demand allowing cost reductions to be achieved through shorter leadtimes, lower inventory levels, quality improvements and enhanced overall system performance.

This creation pattern and motivational analysis indicates each of these alliances involved a Need Awareness Stage. During this stage, the manufacturer implemented a shift in procurement strategy which created the need for an alliance. In two cases, the Search and Selection/Decision Stages were minor since the alliances evolved from existing business relationships. In the third dyad the Search involved a detailed assessment to determine potential suppliers, including those currently servicing other operating divisions. The Selection/Decision in this situation utilized formal competitive bidding during which potential suppliers were analyzed and compared based on price, quality, location, equipment and other characteristics. The conclusion of the bidding was the selection of one supplier to be the sole source of specific materials for participating manufacturing plants.

All four alliances, even those evolving from previous business relationships, progressed through an Implementation/Administration Stage which included joint plant visits. At these visits, key operating personnel from both firms sought to develop a better understanding of each other's operations. These visits educated suppliers concerning how their materials were used in the manufacturers' production operations. In some cases, these visits included line employees who would be involved in the day-to-day implementation of the alliances. For example, one manufacturer sent a team of key contacts into its supplier's plants to make presentations and share quality expectations with its production workers. This team consisted of a few managers and a handful of hourly production/materials management employees.

These visits were critical milestones in the development and implementation of the relationships. When the joint visits were discussed, it was apparent that the experiences had left a significant impression on the informants in several ways. First, the visits signaled a new relationship of trust between the partners and internal change within their own organizations. In fact, one informant discussed the impact of this change. Previously, if a supplier wanted to see how its materials were used in the manufacturer's operations, the supplier was shown only the precise point on the assembly line where the material was applied. During the implementation visits, the entire production system, including loading/unloading docks and inventory storage, at both the manufacturer and material supplier's plants could be toured and critiqued.

Second, the visits served as a signal that management was serious about the alliance and fully supported the need for change. In some cases, the travel costs were significant. One company even discussed how these trips created "hourly executives" because they empowered the hourly employees to manage alliance implementation.

Third, the visits allowed face-to-face contact with people who had worked together over the years but had never met. This facilitated the development of personal relationships between the key participants in the alliance. The personal relationships encouraged trust and camaraderie.

Minimal investment in tooling, production equipment and information technology was required for implementation. None of the alliances required EDI technology for setup, and only one currently operates with EDI. Basically, the alliances were initiated and implemented by key contacts meeting, learning about each others' order/production/delivery systems, and jointly developing ways to improve those operations. One alliance was initiated in a test plant to work out the relationship. Based on this start-up experience, additional plants were included in the alliance arrangement. This is consistent with Greiner's (1967) concept of reality testing where change is performed first in a trial environment and then expanded when viewed as successful.

Each alliance has been in existence for a minimum of three years. The alliance implemented by using a test plant completed the prototype six years ago. For the last three years, all plants involved are operating under the alliance format and currently use EDI technology for alliance communication.

Each dyad has developed a program for continual Administration and Assessment Stages. The assessments have been positive such that none of the alliances were terminated. Modifications in the alliance structures have resulted from the assessments. One of the most visible modifications in one dyad was the conversion from fax communications to EDI.

Modifications in another dyad involved the supplier's investment in new production equipment. Once the alliance was implemented, the assessment of the relationship encouraged a mutual agreement that quality was not meeting expectations. The manufacturing plant was incurring production shut downs resulting from material rejections. During the initial joint visits, this quality information was shared with the supplier who acknowledged that the manufacturer was unable to run efficiently given the current material defect rates. Based on this realization, the supplier agreed to investment in new equipment capable of achieving a higher quality and more consistent material. This investment decision resulted from joint consultation between the CEO of the material supplier organization and the Director at the manufacturer. The manufacturer's informants currently perceive quality defects in the materials received at their plants to be near zero and the material supplier feels the investment was worthwhile. The overall result of resolving this potentially disruptive problem increased the solidarity between the alliance partners.

When informants were queried concerning how the alliance is administered, it became apparent that key contacts at both firms frequently review the relationship. Further, administration occurs at various organizational

levels. For example, in one alliance, the buyer and account representative manage the relationship on a strategic level spending a majority of their time jointly planning new product introduction and discontinued product phase-out programs. In the same alliance, the plant materials management group of both participating firms and the corporate customer service personnel at the material supplier administer the day-to-day activities at an operational level. Administration is facilitated by the personal relationships that develop between key alliance contacts.

The above discussion clearly answers research question one. The alliances progressed through the five stages in the order described: (1) Need Awareness; (2) Search; (3) Selection/Decision; (4) Implementation/Administration; and (5) Assessment. The degree to which each stage was formally acknowledged and critical to alliance success varied. Stages two and three were not significant events in two dyads as the resultant alliances evolved from existing successful relationships.

Research Question Two examined the facilitators or constraints surrounding alliance formation and maintenance and was stated as follows: **What facilitators and constraints influence each stage of the alliance?**

Need Awareness

Two key activities were influential at the Need Awareness Stage. The first was a shift in the manufacturers' procurement strategies as discussed

previously. This shift was in response to competitive pressures that manufacturers and material suppliers faced due to factors such as global competition and industry consolidation. These competitive pressures forced manufacturers to rethink their relationships with suppliers and facilitated collaborative arrangements as a way to resolve the problems resulting from traditional sourcing strategies.

Second, each dyad mentioned an incident involving a major quality problem which indirectly facilitated alliance formation. While this may sound counter-intuitive, the quality problem highlighted the need for change. In one dyad, the quality problem did not concern the alliance partner, but was influential in the manufacturer's decision to use competitive bidding. The alliance partner was awarded the business through its competitive bid.

In the remaining two dyads, the problems were with the current alliance partner. The efficient, open and honest way in which each supplier approached the problem and worked jointly with the manufacturer became watershed events in both parties' minds. As one informant stated, "crisis, when handled up-front and corrected, moves you quickly through the learning curve." The quality problem and its concurrent solution solidified the idea of joint problem solving. Further, the suppliers were forthright with information that traditionally would not have been shared. In one case, the supplier notified the manufacturer of the problem which otherwise could have gone undetected. In the other case, the supplier flew key people to the manufacturer's plant to help correct the problem and paid the manufacturer for a portion of the cost

associated with the quality problem. This initial openness identified the potential opportunities for an alliance to solve quality problems.

Key informants did not identify any constraints that hindered the Need Awareness Stage. However, with any major change, such as the shift in procurement strategy, the fear of change can often become a constraint. Accompanying this fear of change is the inability to relinquish traditional mindsets and practices. In the four alliances, fear of change and acceptance of new procurement strategies were not barriers since the participants felt the change would provide significant benefit.

Search

In all alliances, the focal material was critical to each manufacturer's production system. The importance of the material encouraged alliance formation because the manufacturer-material supplier relationship was viewed as strategically important. An alliance provided the opportunity to improve the exchange of this critical material and gain competitive advantage. In one alliance, the material was critical because it was already purchased from a sole source. In two other alliances, the material could cause significant production downtime if quality was poor. In the fourth alliance, the material could contaminate the manufacturer's finished product and cause major health problems.

The number of alternative sources also impacted the Search Stage. Industry consolidation among material suppliers limited the number of

alternative sources available for the manufacturers to consider when forming the three alliances. Another factor was geographic distance between the manufacturer and material supplier's facilities and its relation to the procurement strategy. Based on the strategy, geographic proximity could influence the decision to include a supplier as a potential alliance candidate. For example, if a manufacturer's procurement strategy involves overnight delivery of products, then the material suppliers must have a plant or warehouse within geographic proximity to accomplish this requirement. Any material suppliers that cannot meet the requirement would not be considered for the alliance.

Selection/Decision

It was proposed in Chapter II that potential investments and contractual arrangements required would influence the Selection/Decision Stage. As mentioned previously, significant investments in tooling, production equipment and information technology were not made when the alliances were initially implemented. As such, potential investment did not negatively influence the Selection/Decision Stage. The fact that significant investment was unnecessary may have facilitated the ultimate sourcing decision by eliminating the risk of poor investment.

In terms of contractual arrangements, two alliances do not have formal contracts. Rather, the buyer provides purchase orders to the supplier and pricing is agreed to based on quarterly or annual volume. In both cases,

adjustments are made when necessary to reconcile price/volume discrepancies. The manufacturer in one of these alliances is engaged in formalizing its procurement system. Some informants expect the manufacturer to include the development of written contracts as a formal requirement of its internal procurement system.

In the other two alliances, a formal contract is provided. One contract extends over a three year period and details resolution of price/volume fluctuations. Informants feel the contract ensures a long term focus. The other contract is based on actual volume and price. The contract may generate several open purchase orders at one time. These purchase orders are watched carefully to match received volume to contract volume. When contract volume is met, a new contract is issued immediately. However, the informants stated that the contract, while watched carefully for volume, is only paper -- it has little to do with alliance management.

It is interesting to note that on the questionnaires, the manufacturers who did not have contracts disagreed that an effective logistics alliance must be supported by a written contract. The manufacturers that had contracts strongly agreed with the statement. These responses were split consistently with actual alliance behavior. The material supplier responses were also divided, but not consistently with alliance contractual behavior. In the cases where a contract was provided, one material supplier strongly agreed that a contract was important and the other disagreed. The same pattern resulted when a contract was not provided. This matched the interview data where

informants at two material suppliers felt a contract signified long term commitment and was necessary for trust to develop before sensitive information, such as profit margin, would be shared. One of these material suppliers had a contract and the other did not. Informants at the other two material suppliers felt the contract had little impact on the alliance relationship, and only one supplier had a contract. Table 4.2 illustrates the responses to highlight the different perceptions.

Table 4.2
Contract Importance

Informant	Contract Status in the Alliance	Mean Response "Written Contract is Required for an Effective Alliance"	Agreement with Actual Alliance Behavior
Manufacturer A	Yes	4.50 - strongly agree	Yes
Manufacturer B	Yes	4.50 - strongly agree	Yes
Manufacturer C	No	2.50 - disagree	Yes
Manufacturer D	No	2.00 - disagree	Yes
Supplier A	Yes	2.00 - disagree	No
Supplier B	Yes	5.00 - strongly agree	Yes
Supplier C	No	2.50 - disagree	Yes
Supplier D	No	4.50 - strongly agree	No

One alliance was influenced at the Selection/Decision Stage by a unique goal. The manufacturer wanted to gain an "early win" when it changed its procurement strategy. Based on that goal, alliance selection focused on choosing the appropriate product line, not supplier, for the alliance. The

manufacturer searched for a product line that maintained significant amounts of material inventory. The manufacturer assessed which material had the potential for a large inventory reduction that would be achieved easily to provide an early win. Further, the manufacturer wanted to choose a material that was highly visible so the large inventory reduction would be acknowledged by other plants and top management.

Implementation/Administration

Visible investment in physical resources, such as tooling, production equipment and information technology, was not required for initial implementation. Significant investment was incurred for human resources. This included time, training and plant visitations. These visits facilitated implementation by enabling personal relationships to develop where technical and social knowledge could be transferred. Key alliance contacts were able to take ownership of the alliance by building these relationships.

Concentrating on small incremental changes as opposed to radical changes in operating practice facilitated implementation. Small changes were easier to plan, manage and complete, providing early success. This success motivated key contacts to further improve the relationship. Ad hoc teams of key contacts were formed to jointly plan and implement operational changes.

Constraints during Implementation/Administration can be divided into three categories: (1) traditional operating philosophies and culture; (2) incompatible systems; and (3) securing required resources. Changing traditional

operating philosophies and culture is perhaps the largest hurdle to overcome when implementing an alliance. Corporate and managerial hierarchies must be abandoned to allow key players to take ownership of the alliance and perform the requisite operational activities.

To achieve ownership, partners must also share critical information. Some informants stated that at the beginning of the alliance there was a reluctance to share information which may still exist today. Operational activities may need to be reengineered to improve performance and reduce waste and duplication. Reengineering is critical if the alliance spans multiple facilities within a partner's operations. Each facility may operate with different cultures and philosophies. These facilities must integrate and establish common operating practices and opinions concerning alliances or the benefits of collaboration will be limited.

Changing traditional operating philosophies is difficult and can be hindered by the fear of change. If the alliance requires the material supplier to perform non-traditional responsibilities, the material supplier may fear retribution if any mistakes occur. This fear is understandable given traditional adversarial relationships. Reassurance that the manufacturer will work to solve problems, not assign blame is critical to reduce this fear. One manufacturer admitted internal mistakes were made before the alliance was implemented. It was likely that any initial mistakes under the alliance structure would be less disruptive due to joint planning and information sharing. This admission helped to alleviate the material supplier's fear of failure.

Incompatible systems is another hurdle to overcome. By having joint visits and understanding each partner's business, this hurdle can be reduced. However, incompatible systems not only constrains external integration, but also greatly affects internal integration. For example, the alliance that added plants as the relationship became more productive ran into a severe problem since the manufacturer's plants did not operate on compatible systems. Given this, the plants had to develop a new system or design a converting program in order to transmit requirements to the material supplier.

In two alliances, a problem with incompatible systems occurred and converting programs were developed to facilitate communication transmission. At first, both solutions were simple, manual converting programs where a key contact gathered the individual plant requirements and combined them into one compatible format. One dyad has automated this converting program. Now, each individual plant forwards the requisite information via EDI to a third party network where the conversion is completed and the information is sent in one compatible format to the partner firm.

Securing required resources was critical during initial implementation and remains critical for alliance administration. At first, the resources required were focused on training and joint visits. One material supplier developed a training program for its plant personnel. The program focused on the plant's role in providing customer service, including what information is acceptable to share with customers and how to handle issues in a professional manner.

Joint visits were substantial investments in cost and employee time, but these visits were critical for establishing personal relationships and understanding production systems. Some informants were concerned that these visits would not be supported to the same extent today if the current alliance was extended to new plants or personal relationships needed to be reaffirmed. The lack of travel support may serve as a barrier for developing new alliances as well.

Securing resources became even more critical when the alliance progressed to Administration. One informant discussed how difficult it was to acquire computers for the plant materials management groups. Computers were essential for key contacts to better manage the alliance and perform analytical functions. Now that time was available for proactive planning rather than reactive problem solving, it was critical that the key contacts had the necessary tools to perform new job responsibilities. Major investments in technology, such as new production equipment, would be even more complex to secure. In one alliance where equipment was necessary, the investment decision was jointly considered between top executives at both partner's firms.

Another resource issue during Administration is how to handle job turnover. The majority of the original contacts were in the same or similar positions. However, turnover occurred in one alliance at the buyer-sales representative level. This turnover did not appear to negatively affect the alliance relationship since it occurred after implementation was complete and the alliance was a stable operation. It will be interesting to see if any future

ramifications occur from this turnover since the level of personal commitment and the relationship between contacts may vary between original players and newcomers. This is not to say that newcomers to the alliance are not dedicated to making the relationship successful, but they may not have the same sense of ownership which could affect their willingness to continue the alliance relationship perpetually.

Assessment

As the alliance develops and achieves mutual goals, dependency may increase between key contacts who begin to share more information. This dependence creates a perception that it would be difficult for either party to switch to another partner. This is confirmed by the questionnaire responses. Two manufacturers and three material suppliers disagreed that they could easily replace their alliance partner with another, and the remaining manufacturer was neutral. No individual respondents strongly agreed with the statement and only one respondent agreed. Further, all six manufacturers and material suppliers agreed their firm would suffer a significant loss if the alliance was terminated.

Factors that supported the perception of high exit costs varied. In all cases, the positive working relationship was influential to this perception. Value-added services provided by the material supplier were viewed as superior to competitors' offerings so switching suppliers would lower operational performance. Strong personal relationships supported business continuity and

ad hoc teams continually improved performance. In one alliance, equipment investment was an additional activity that created perceived exit barriers.

In terms of the personal relationships, many informants discussed how close they have become to their key contact(s) at the partner firm. Many know the contact's spouse, children's names, hobbies, etc... They also understand the contact's internal barriers which creates an interesting dynamic. This personal knowledge has generated a high degree of loyalty between key contacts. This loyalty extends beyond the key contacts to the alliance relationship itself. These contacts feel they are working together to fight the corporate hierarchies constraining the alliance. In other words, a united front occurs where the alliance contacts develop an "us against them" mentality. This united front facilitates alliance continuance because informants understand the problems each partner faces and sympathize with their situation. As one informant described the united front, "with problems, we become less emotional and more professional because we know each other personally and understand each other's barriers, so it's easier to work through problems."

This personal tie may become a constraint should alliance performance decline. Termination would be a disappointment and many contacts may have difficulty ending the alliance due to the high degree of loyalty and interdependence between the partners.

The personal ties and perceived exit barriers could also be a constraint if the dependence becomes financial as well as personal. If the amount of business exchanged in the alliance is sufficiently high, it may make the

manufacturer/material supplier a primary source of demand/supply that could put either partner at risk should the relationship sour. If this financial dependence were to become too high, top management may intervene to moderate the alliance relationship.

Another constraint at this stage remains the reluctance to share strategic and/or operational information. In the questionnaires, this reluctance was highlighted. When respondents were asked if information sharing was critical to the success of logistical alliances, all six firms strongly agreed with the statement. When asked if the ability to share operational information was critical to partner selection, the three manufacturers agreed with the statement while all three material suppliers indicated strong agreement. When asked the same about strategic information, two manufacturers and all three material suppliers agreed and one manufacturer gave a neutral response. The difference in response means between manufacturers and material suppliers concerning operational information could signify a major philosophical difference that could constrain alliance assessment. The difference could result from the material suppliers placing more emphasis on the ability to share operational information during initial formation or at any stage.

Alliance benefits are limited by the inability to share critical strategic and/or operational information. Withheld strategic information may include future business/product development, long term procurement strategies, pricing and strategic expectations. Withheld operational information may include performance, cost savings and changes in operating practices.

The final constraint, which may prove to be the largest, is that the manufacturer may continue to focus assessment on piece price alone. One informant talked about how price, quality and service should be the three equal legs that the alliance stands on. However, when it comes to assessment, manufacturers often view price as the most critical evaluative factor. Manufacturers want to ensure they are paying a fair market price. However, a more reasonable and accurate evaluation of alliances would be market **value** not market price. Market value would accommodate for the value-added services and intangible benefits provided in an alliance. Often, these services are offered at no cost to the alliance partner, whereas a non-alliance manufacturer would be charged for similar services.

In conclusion, the above discussion detailed the facilitators and constraints influencing each stage of the alliance. This discussion and research question one support the Process Component (Figure 2.4).

Research Question Three examined the evaluation of perceived effectiveness and adherence to operating standards: **To what degree is an assessment made of strategic effectiveness and adherence to operating standards?**

The Implementation-Assessment-Administration mechanism was supported by strategic and operational evaluations. Full description of these evaluations will occur in the Strategic and Operational Component sections. The remaining portion of this section will describe assessment frequency.

Strategic and operational evaluations occurred on three levels: (1) annual reviews; (2) quarterly or monthly reviews; and (3) weekly/daily reviews. All three dyads have some provision for annual reviews. These reviews are directed at the strategic level, but may examine operational measures. Additional agenda items for these reviews are to set new mutual goals and objectives, discuss future direction and develop continuous improvement programs. These reviews are conducted in face-to-face meetings and include only a few of the key players and top management from both partners.

The quarterly or monthly reviews combine strategic and operational evaluations. Progress on strategic goals and objectives is tracked and reviewed, and performance measures and operational problems are discussed. Only two alliances had formal means for these reviews. These meetings may occur over the phone or in person. Typically only a small number of people are involved in the discussion, such as the buyer, plant contact(s) and the sales/customer service representative(s).

Weekly/daily updates do not necessarily illustrate formal evaluations, but did occur in all cases on an as needed basis. These updates focus specifically on operational problems and issues, and involve only the contacts with immediate responsibility for the problem at hand. These updates facilitate conflict management/resolution such that participants resolve the problem or talk about the issue quickly and directly before resentment builds.

Research Question Four focused on how alliances move beyond their original intent: **What promotes alliance extension beyond the original mission or goal?**

None of the alliances have been significantly extended beyond their original mission or goal. In one alliance, the original mission was to start with a test plant and expand to other plants once experience was gained, so this modification was part of the original intent. Other modifications have been made as needed, but do not necessarily extend the alliance's range of responsibility. However, one alliance has begun discussing major modifications in operating structure that would give the material supplier direct responsibility for managing inventory in the manufacturer's facilities.

Two dyads expect EDI will be utilized in their operating structure within the next few years. These modifications may extend the alliance since the manufacturers' inbound logistics functions do not currently use EDI. Given this, it is likely that a major shift in procurement strategy will be needed before EDI is implemented. In both cases, the suppliers are already capable of EDI transmission.

Based on the interviews, it is concluded that extension may occur because of three factors: (1) the alliances have been successful and have met original goals and objectives; (2) no major problems have resulted that limited the relationships or caused major resentment to build; and (3) the value-added services offered by the material suppliers have increased dependence. These factors are likely to promote the relationship to a higher purpose or mission.

In addition, most of the informants feel the alliance has been exciting to be involved in. The current accomplishments have produced a great deal of pride for key contacts who would like to see this relationship extend over a new range of success.

Research Question Five examined the reasons that may cause an alliance to be disbanded. Specifically, this question asked the following: **What are reasons for terminating the alliance?**

The alliances are stable and successful. However, informants discussed issues that may affect the decision to terminate. The first issue mentioned was competition. Informants are concerned that competitive forces will cause manufacturing firms to source globally or material suppliers to place potential accounts at a higher priority than the current alliance. Either of these actions may cause the alliance relationship to deteriorate and possibly end.

Another issue concerning competition is innovation. A few informants felt that the alliance may hinder innovation by breeding familiarity and comfort. In response to this concern, some manufacturing informants intend to track new industry technology and alternative sources to understand future business directions. These innovations, if deemed critical to the manufacturer's operations, may result in alliance extension or termination depending on the situation (e.g., patent requirements).

Other informants feel the alliance has encouraged innovation. For example, one manufacturer was motivated to form the alliance to gain access

to the material supplier's design and technical skills. During the alliance, the material supplier has helped the manufacturer significantly through its involvement in early design and plant layout.

The second issue is price. Some of the informants (on both sides of the dyad) worry that corporate pressures to cut costs may force a focus on achieving short term price reductions which is often contrary to an alliance. This potential obsession with piece price may cause alliance termination if other factors, such as value-added services provided, operational improvements and reduced waste and duplication, are not considered. Under current purchasing systems, the intangible benefits of an alliance are not easily quantified. The main measure of performance for most purchasing departments is adherence to budget, not on-time receipt of material, quality of material, benefits of a supplier's design expertise, etc... Ignoring the more qualitative alliance benefits unfairly distorts alliance success by evaluating collaborative arrangements on an equal scale as non-alliance relationships.

The third and final issue that could cause alliance termination is poor performance leading to supply instability. Poor performance could vary from quality problems to material shortages. All alliances reported that strong working relationships facilitate routine discussion of problems and joint resolution. Discussion often examines how both partners contribute to supply disruptions. Cross-organizational teams are available to work specifically on issues when and if they arise.

In summary, competitive factors, a preoccupation with market price as opposed to market value and poor performance are key factors that may encourage alliance termination. Performance is the most important of these factors. While cross-organizational teams and frequent, candid discussions are positive, the fact remains that the alliance must perform. If the problems are not solved or if new problems continually surface, overall alliance performance will suffer and termination could result.

PROCESS COMPONENT - CONCLUSION

The five Process Component questions have been answered. Support is provided for the Process Component of the general alliance model shown in Figure 2.4. Alliances progress through Need Awareness, Search, Selection/Decision, Implementation/Administration and Assessment Stages. When the partner is easily distinguishable and familiarity is high, the Search and Selection/Decision Stages are informal and may be less critical to alliance formation. Activities that facilitate or constrain alliance progression were provided and detailed for each stage.

Alliance evaluations occur at three levels. Annual reviews, which concentrate on strategic expectations, are the most formalized evaluations. Quarterly or monthly reviews evaluate strategic and operational issues. These reviews were used in half of the alliances studied. Weekly/daily reviews focus on operational issues and involve only the contacts with direct responsibility for the specific concern. These informal reviews are critical for conflict resolution.

The four alliances have not been significantly extended beyond the initial structural boundaries. It is proposed that alliance extension is likely to occur if alliances have successfully achieved original goals and objectives, major problems have not occurred and mutual dependence increases the perception that it would be difficult to substitute the current alliance partner. For example, if the material supplier provides value-added services beyond competitors' offerings, the switching costs are high for the manufacturer.

Finally, termination is likely to occur if competitive forces dramatically shift the focus of either partner and cause the alliance to fulfill a less important strategic role. Price myopia could also cause alliance termination. If manufacturers evaluate market price instead of market value, suppliers will not be given adequate acknowledgement for the intangible benefits they bring to the relationship. Finally, alliance performance must be sufficiently high to warrant continued interest from both partners.

STRATEGIC COMPONENT

Research Question One examined the evolution of expectations as the alliance is formed. It was stated as follows: **To what degree do strategic expectations evolve as the alliance progresses and lead to expected effectiveness?**

Initial Expectations

The manufacturers formed alliances to achieve four overall goals: (1) to reduce costs; (2) to gain competitive advantage; (3) to improve quality; and (4)

to develop a stable supply of material. Two additional goals, inventory reduction and access to technology, were also discussed. Initial strategic expectations were developed at the Need Awareness Stage. These expectations were formed in terms of potential net benefit, and were consistent with the strategic goals. However, the amount of benefit to expect from each goal was not well developed. For example, one informant discussed that the manufacturer had over three weeks of the supplier's inventory in its production facilities before the alliance was initiated. One goal for the manufacturer was to reduce this inventory, but the amount of reduction possible was not formally estimated.

Secondary Expectations

As each alliance progressed to the Search Stage, the goals, secondary expectations and estimates of potential net benefit became more detailed. In one dyad, the manufacturer decided it could use a new type of material in its production system. After trying a sample run, the manufacturer gradually increased the volume of material purchased from the supplier. As the relationship evolved and volume steadily increased, the manufacturer contemplated forming an alliance. At this point, the manufacturer had developed detailed expectations of its goals: (1) to reduce costs by relying on this supplier's technical skill and knowledge to improve exchange; (2) to gain competitive advantage from an alliance with a high quality, service-oriented material supplier; and (3) to achieve a stable supply. The last goal was

important since the supply base was artificially reduced through severe industry consolidation.

The manufacturer could also make some assessments concerning the cost of doing business with the material supplier. Historically, the sources for this material were in close geographic proximity to the manufacturer's production facilities. This new supplier was located a significant distance from the manufacturer's plants. The manufacturer was able to estimate transportation costs based on increased volume projections as well as consider whether service levels would be sacrificed due to distance.

Expected Effectiveness

Once the actual partner was selected and agreed to form an alliance, each partner developed strategic expectations about potential benefits. For the manufacturer, expectations concerning potential net benefit were already established in earlier stages, but became more detailed. This detail was possible because the material supplier was able to provide ideas, suggestions and expectations of net benefits during initial meetings to discuss the alliance.

The material suppliers expected to increase perceived switching costs, gain competitive advantage, increase customer service, reduce costs, stabilize demand patterns, decrease leadtimes and inventory levels, and improve quality. The costs of forming the alliance for the material supplier included time, training and dedicated personnel assigned strictly to administer the alliance. Mutual goals and objectives for the alliance were finalized as well.

Both partners formalized expectations concerning how the alliance would be managed and coordinated, and assessed partner compatibility. These expectations focused on the requirements for a successful, productive alliance.

As the alliances progressed through Implementation, the expectations concerning alliance success and productivity were evaluated. Based on the questionnaires, these assessments remain positive. All the manufacturers and two material suppliers strongly agreed the alliance has been productive and one material supplier agreed. Three manufacturers and two material suppliers strongly agreed the alliance has been satisfactory. The remaining material supplier agreed.

Based on the above discussion, it is confirmed that strategic expectations are initially developed and relate to the goals driving Need Awareness. These initial expectations evolve into more detailed expectations of alliance effectiveness as the alliance partner is selected and agrees to participate.

Research Question Two examined how alliance partners establish strategic expectations at the Selection/Decision Stage: **How is expected effectiveness determined?**

The main constructs in Bucklin and Sengupta's (1992 and 1993) measure of effectiveness and the additional construct used in this dissertation are supported in all three dyads. These constructs are (1) length of alliance relationship; (2) alliance management; (3) net benefit; (4) partner match; and

(5) partner coordination. The interviews and questionnaires illustrate this measure of effectiveness both in terms of expectations during the Selection/Decision Stage and perceptions at the Implementation/Administration Stage.

Length of Alliance Relationship

All three dyads have been completely involved in the alliance for at least three years. Bucklin and Sengupta (1992 and 1993) hypothesized and found that as alliances withstand the test of time, they are more likely to be perceived as effective. At the Selection/Decision Stage, this measure can only be estimated by the partners since the alliance is just being formed. However, in all cases, the partners expected the alliance would be a long term relationship. In two alliances, this expectation existed because the partner firms already had a historical business relationship that was now evolving into a more formalized agreement. In another alliance, this expectation was supported because the partners signed a three year contract. In the final alliance, no contract was signed, but the business was awarded through competitive bidding. The material supplier perceived business would continue for a few years since competitive bidding for sole sources was a large undertaking that was unlikely to occur on an annual basis. In this alliance, the expectation of long term business was not as strong as in the other three alliances.

Alliance Management

Expectations concerning alliance management focused on three elements that negatively impact alliance effectiveness: (1) power imbalance; (2) managerial imbalance; and (3) conflict. Initially, these elements were not included in initial expectations. If the partners expected such negative results, it is unlikely they would have entered into an alliance agreement. After all, expecting significant imbalances and unresolvable conflict at the beginning of an alliance is similar to expecting divorce at the time of the wedding ceremony. It is unlikely the partners would agree to pursue the alliance with these concerns and with the high likelihood of failure.

One possible explanation for discounting imbalance and conflict at initial formation is that these elements were not an issue in prior business relationships. In the dyads that had a significant business history, the management of their pre-alliance relationship was balanced and conflict was low, so there was no reason to expect the same would not hold true once the alliance was formed and implemented. Where a secure history was not as prevalent, some concern was present in terms of power imbalance where the material supplier feared the traditional adversarial role would result under the pretense of an alliance.

Imbalance and conflict were considered and discussed at the Implementation/Administration Stage. Two dyads felt the relationship was managed on a very balanced and stable basis with neither partner holding extensive power over the other. Informants in one dyad felt a lack of

information sharing created a one-way focus leaning toward the more powerful partner (the manufacturer). However, while a perceived power imbalance existed, the supplier's informants believe the alliance is successful and had improved business exchange, just not to the extent hoped for initially.

None of the dyads exhibited disappointment in the equivalency of participants dedicated the alliance (managerial imbalance), and, from an observation point, this type of imbalance does not exist. One of the material suppliers has personnel who concentrate specifically on the manufacturer, but this does not appear to be an unequal commitment. The amount of business exchanged between these two partners is so high that the manufacturer's personnel, albeit not assigned strictly to the relationship, spend a majority of their time on the alliance as well.

Interestingly, conflict is relatively non-existent in the relationships studied. Conflicts appear to be resolved before they become dysfunctional. Informal and candid discussions between key contacts, ad hoc continuous improvement teams and weekly/daily reviews facilitate conflict management. When informants were asked to discuss specific conflicts and their resolution, most could not even think of a major issue since the alliance was implemented. The questionnaires provide convergent information since two manufacturers and two material suppliers strongly disagreed that significant disputes had developed between partners during the last three months. One manufacturer disagreed with the statement and one material supplier remained neutral.

Net Benefit

This expectation is perhaps the most detailed of the five dimensions at the Selection/Decision Stage. The manufacturers' expectations for net benefit have evolved from the two previous stages and were revised based on initial meetings with the partner. The material suppliers' expectations were also developed since both parties had discussed their mutual goals and objectives.

Further, the partners discussed potential investments in tooling, production equipment and information technology to determine what the cost would be to form the alliance. While investments in physical resources were not required initially in the alliances studied, they may be applicable in other relationships.

All three dyads have perceived the actual net benefit to be positive such that total benefits have outweighed total costs. In fact, many informants described achieved benefits they did not initially expect or even consider. Some of the unexpected benefits were: (1) the ability to extend operational improvements to the material supplier's supply base to improve overall supply chain integration; (2) the ability to focus resources on proactive as opposed to reactive issues; (3) decreased transportation costs from more stable systems and fewer expedited orders; and (4) empowerment of plant personnel who initiate many of the continuous improvement ideas.

Cost savings can also be achieved through specific improvement programs. These cost savings are reached from joint or individual partner's continuous improvement programs. Many of the informants feel that if the

programs are jointly operated, any cost savings should be shared, but if the ideas originated and are individually managed by one partner, the savings should be kept by that partner. However, on the latter statement one note is necessary. A few manufacturing informants feel any cost savings achieved by the material supplier, whether individually or in conjunction with the manufacturer, should be shared since the material supplier began the relationship with an adequate profit margin. In other words, a material supplier should not need cost savings to increase profit margin and, therefore, any resultant savings should be directly applied to price reductions or shared with the manufacturer.

Most informants did not feel that the costs to forming an alliance were extraordinary. The joint visits and training were costly as were any investments in equipment and information technology made after implementation. However, these costs are comparable to conducting general business with other suppliers and customers. The costs to be in an alliance did not appear significantly higher than the costs to do business in a non-alliance relationship. Of course, two factors may influence the cost comparison. First, the comparison may be faulty if the firms do not have adequate internal systems to accurately determine actual alliance costs. Second, the comparison may be biased if the partners underestimate the costs because the net benefit to the alliance is greater than a non-alliance relationship.

One important point concerning cost is required. Some material suppliers stated the value-added services were provided at no cost to the manufacturer.

In non-alliance relationships, customers would be billed for similar services. This represents one potential cost area material suppliers may underestimate in the determination of potential net benefits.

Partner Match

Partner match is an indicator of the alliance partner's ability to develop a cohesive arrangement and has two elements: (1) organizational compatibility; and (2) the length of the previous business relationship.

Partners initially formed expectations concerning organizational compatibility by determining if similar cultures, consistent goals and objectives, and compatible information systems existed. Informants in two alliances specifically discussed that compatible business culture was critical in the decision to form the alliance for both partners. These alliances exhibited highly similar cultures, including policies for rewarding employees and treating customers/suppliers.

Many informants discussed how joint goals and objectives were set and initially agreed to at the Selection/Decision Stage. As such, the alliances were implemented to achieve mutual, consistent goals and objectives. A potential problem was highlighted by an informant who stated that goal incompatibility is not always between external partner firms, but rather can develop internally from discrepancies between one partner's plants and its managerial levels.

In another alliance, the partners were aware that the current information systems were not compatible. This form of incompatibility exists at the

beginning of many relationships between manufacturers and material suppliers and is often compensated for by the material supplier. For example, all the material suppliers studied can communicate with their customers via phone, fax and EDI. They remain flexible in their ability to communicate and can conduct business on various levels of technology sophistication. The point where systems compatibility becomes a major issue is if the problems can not be resolved in the long run.

The length of the previous business relationship focuses on the idea that alliances do not form between complete strangers. In the alliances studied the partners had some working knowledge of each other. This level of familiarity enabled each firm to develop expectations about its partner and how effective the alliance would be.

Partner Coordination

Partner coordination is based on two elements -- character-based trust and cooperation. Character-based trust has five aspects: (1) integrity; (2) motives; (3) consistency of behavior; (4) openness; and (5) discreetness. Initial expectations concerning character-based trust were high for two alliances because the pre-alliance relationship created a strong level of trust. These partners had historically worked together so consistency of behavior and discreetness had been examined over a long period of time. Also, the partners were already open and up-front with each other. Neither party felt ulterior motives for forming the alliance existed.

The other alliances were not as strong on these expectations. Their relationships were perhaps too new to start out with high levels of character-based trust. While the partners had some business history, many of the key contacts for the alliance were not familiar with each other. Based on this information, the partners were a little apprehensive but willing to move forward with the alliance.

In terms of cooperation, all alliances had high expectations for the ability to jointly plan and coordinate strategic goals and objectives. All expected joint problem solving teams would be developed to facilitate coordination. This area is perhaps one where actual levels of cooperation have not met the high expectations. Some informants stated that the main reason for a lower level of cooperation than expected is due to the inability to share the necessary strategic information to achieve true cooperation.

One alliance was particularly interesting in terms of achieving a high level of trust and cooperation. This alliance was managed with the fewest contacts. In total, the relationship was administered by approximately six key people which may explain the achievement of high trust and cooperation.

Informants on both sides of the dyad provided examples of the level of trust and cooperation. Perhaps the best illustration of trust focused on how payment terms are managed. Payment terms are a typical argument, not agreement, in many exchange relationships. Over the years, the manufacturer had demonstrated its consistency for paying invoices on time and the supplier had demonstrated integrity by providing the appropriate net discount. Further,

the number of invoice inconsistencies was very low. Based on these facts, the material supplier decided to start invoicing the manufacturer at net costs, thereby, eliminating discount tracking/payment systems for both firms. This action was also prompted by the strong commitment shown in terms of meeting contractual volume and price. The manufacturer historically purchased the exact contract volume, so volume/price discrepancies were non-existent.

This alliance also exhibited a high level of cooperation. The informants work on joint continuous improvement plans, take mutual risks and share future strategic information, including overall growth plans. When asked how price is factored in, one informant stated that price itself is an issue, but the way price is managed is a non-issue. In other words, both partners will always be concerned about price since that is the nature of business, but neither "sweat the details." Instead, the partners agree on a price and then forget about it.

Two environmental factors help explain why price is deemphasized in this alliance. First, the focal industry for this alliance is heavily regulated by the government so variance in price across suppliers may not be as great as it is in less regulated industries. Therefore, the manufacturer is more certain it is getting a fair price from its material suppliers. Second, over the history of the relationship, neither party has felt "burned" by price and both parties have lived up to their contractual agreements. For example, when the material supplier ran into supply problems, rather than cancel the manufacturer's order, it purchased materials from a competitor to ensure the order was met on time. The manufacturer has also reciprocated this commitment. The two partners

track inventory levels. If the material supplier's inventory is too high and it is experiencing storage overflows, the manufacturer will cooperate by accelerating delivery to ease the supplier's inventory problem.

Based on the above discussion, the measure of alliance effectiveness provided in Chapter II is supported. However, in the Selection/Decision Stage, expected effectiveness may be weighted heavily on potential net benefit, especially if the alliance partners are not extremely familiar with each other. At the Implementation/Administration Stage, all five dimensions of alliance effectiveness are extremely relevant and supported.

Research Question Three examined how perceived and expected effectiveness are compared and was stated as follows: **Do firms compare perceived effectiveness to expected effectiveness?**

The comparison of expected effectiveness to perceived effectiveness is not as clear as initially proposed. While informants discussed whether or not the alliances had met the strategic expectations developed during the Selection/Decision Stage, a formal comparison of all five dimensions of alliance effectiveness was not specifically made. Rather, it appears that the alliance partners evaluate and compare only a few key items.

First, alliance partners compared potential and actual net benefits. The alliances studied achieved positive net benefits and informants were satisfied with the alliance results. However, it is interesting that based on the questionnaires, some discrepancies existed in terms of actual and expected

benefits. The top four benefits actually achieved by the alliance when all the responses are combined were as follows: improved quality; inventory reduction; customer satisfaction; and leadtime improvement. The top four expected benefits were increased competitive advantage, cost reduction, improved quality and supply stability. Given these results, it is shown that some benefits, were achieve beyond initial expectations (e.g., inventory reduction), while other important expected benefits were not achieved to the extent expected (e.g., competitive advantage). The same pattern was exhibited when each firm was examined individually. Only one firm's top expected benefits were equally matched with the realized benefits.

Second, firms evaluated the achievement of mutual strategic goals and objectives in terms of organizational compatibility and the ability to effectively cooperate. These evaluations were used to assess the alliance relationship and to set new goals and objectives.

It does not appear that a comparison is made between expected and actual effectiveness on each dimension. The remaining dimensions are examined to explain why benefits, goals, objectives and cooperation are not achieved or are not as high as expected. Areas where opportunities for improvements exist are identified. For example, lower levels of character-based trust may be used to justify why benefits are not fully achieved. One informant discussed how one of the materials they supplied to the manufacturer was moved to a competitor when the material supplier experienced a problem securing the necessary raw materials. The informant felt if the level of trust

was higher between partners, the problem would have been jointly solved and the alliance supplier would have retained the business.

Based on the above discussion, Figure 2.6 is supported since strategic expectations evolve into expected and perceived effectiveness. However, strict comparisons between expectations and perceptions of actual effectiveness do not appear to be evaluated as clearly as proposed. Rather, expected effectiveness evolves into a more detailed perception of effectiveness and comparisons are made to either justify the alliance, as is the case with net benefits, or to explain why the alliance has not achieved the levels of effectiveness initially expected.

Research Question Four examined how effectiveness leads to the decision to continue the alliance. Specifically, this question asked: **What elements of effectiveness promote long term survival, through sustainment or modification, of the alliance?**

The most important element of effectiveness to promote alliance survival is actual net benefits. Exchange will only be conducted in the event that it strategically makes sense and meets performance expectations. In other words, the statement "what have you done for me lately" must be positively answered. If the alliance is not consistently providing strategic benefits, it will not be continued.

Second, the alliance must operate under mutual and compatible goals and objectives. If the partners operate with different or incompatible goals,

performance will suffer and the level of trust in each other's motives will deteriorate. Compatible goals and objectives must be achieved internally as well. If the alliance operates in multiple facilities in one firm, these facilities must agree on the goals and objectives or performance will suffer.

Third, firms must cooperate to achieve the goals and objectives as well as spark continuous improvement. In addition, cooperation can ensure innovation is not lost or hindered if partners jointly examine and contribute to product and system improvements.

Finally, four factors can severely hinder alliance vitality. They are as follows: (1) the inability to mitigate power imbalances; (2) unequal managerial commitment in terms of the number of people involved in the alliance or their organizational levels; (3) dysfunctional conflict; and (4) low levels of character-based trust. These four factors are inter-related. A sign of a problem in one area may indicate potential problems in all four areas. Suppose the manufacturer becomes preoccupied with price when evaluating the supplier and, thus, fails to consider other benefits of the alliance, such as value-added service and quality. This may cause the material supplier to question the manufacturer's true alliance motives. Low levels of character-based trust can result and lead to dysfunctional conflict. Further, if the manufacturer demands price concessions, it is likely the material supplier will perceive a severe power imbalance exists.

STRATEGIC COMPONENT - CONCLUSION

The four Strategic Component questions have been answered. Support is provided for the Strategic Component of the general alliance model shown in Figure 2.6. The manufacturer, as the initiator of the alliances studied, developed initial expectations concerning potential net alliance benefits. These expectations focused on benefit areas and were consistent with the goals identified in Need Awareness. Secondary expectations of potential net benefits were detailed during the Search Stage. The Search Stage facilitated accurate assessments of the amount of benefit to expect, not just the benefit area. For example, suppose an initial expectation was to reduce inventory (a benefit area). The secondary expectation would estimate the percent reduction possible (amount of benefit to accomplish). Costs to form the alliance are also more detailed and solidify whether net benefit is possible.

Once the partner was selected and agreed to form the alliance, each firm developed expectations about strategic effectiveness. The strategic effectiveness measure consists of five dimensions: length of alliance relationship; alliance management; net benefit; partner match; and partner coordination. During Implementation/Administration, the partners evaluated their perception of strategic effectiveness. Comparisons were made between expected and perceived strategic effectiveness in order to assess whether the alliance should be sustained, modified or terminated.

A formal comparison of all five effectiveness dimensions was not made. Rather, alliance partners compared key items such as potential and actual net

benefits. Partners also evaluated the extent that mutual strategic goals and objectives were achieved. This evaluation required a comparison of expected and perceived organizational compatibility and cooperation. Organizational compatibility is assessed to determine consistency of goals and objectives. Alliance partners form high expectations concerning the ability to cooperate to achieve these mutual goals and objectives. The remaining dimensions may not be strictly compared. Rather, these dimensions are evaluated to justify benefits, explain why some benefits were lower than expected, and identify areas for improvement.

It was proposed that actual net benefits, mutual and compatible goals and objectives, and cooperation are required for alliance vitality. The most important element for long term survival is realization of benefits. To be sustained, the alliance must be strategically important and provide improved performance over traditional relationships.

Power and managerial imbalances, conflict and insufficient character-based trust represent barriers to alliance vitality. Imbalances discourage the weaker partner from investing financial and human resources in the alliance. Dysfunctional conflict reduces performance and the ability to achieve net benefit. Insufficient character-based trust reduces the willingness to share strategic and operational information. If key information is not shared, integration and synergism will be not realized. Price myopia can damage character-based trust and lead to dysfunctional conflict and power imbalance.

OPERATIONAL COMPONENT

Research Question One examined how criteria are developed which determine operating standards. The question was stated as follows: **To what degree do criteria evolve as the alliance progresses and lead to operating standards?**

Search Criteria

At the Need Awareness Stage, each manufacturer had made a major shift in its procurement strategy that facilitated alliance formation. The manufacturers developed criteria and guidelines to clarify their new strategies. In two alliances, the criteria was written and documented as a formal procurement program that included practices for selecting and qualifying suppliers as well as developing alliances. In the remaining alliances, the buyers were not given formal written criteria but understood the new strategy and its implementation system. The intended goals were also discussed.

In Chapter II, it was proposed that the initiating firm would develop criteria to search for information on alliances, such as the potential benefits and keys to success. This formal search on alliances did not occur in the dyads studied. The search criteria centered on the new procurement strategy. However, it is unclear how the new purchasing strategies were chosen. For example, when one manufacturer decided to shift to a supply base reduction strategy and single source individual plants, it was clear what motivated the shift, but not how that particular strategy was chosen as opposed to other possible strategies. In determining which strategy to choose, it is likely the

manufacturer established search criteria where it evaluated innovative purchasing strategies and selected one that fit its strategic needs.

Selection Criteria

The Search Stage in two dyads was relatively minor since the alliance evolved from existing relationships. The manufacturers did not conduct a formal search to identify the alliance partner. Rather, the partner was easily distinguished from other material suppliers. In one dyad, the partner was distinctive because of its advanced technical skills and successful business relationship with the manufacturer.

In another dyad, the partner was not as distinctive as the product line it supplied. In this dyad, the manufacturer searched to determine which material would be a prime candidate to receive from an allied supplier, not which material supplier should be chosen. The new purchasing strategy allowed single sources to become more integrated in and responsible for the manufacturer's operations. Essentially, the material supplier would manage its inventory in the manufacturer's plants. One of the main goals of this procurement strategy was to achieve major inventory reductions. The search and selection criteria focused on which product was best suited for a vendor managed inventory program. Once that was determined, the supplier for the alliance was automatic because the material was single sourced. The selection criteria established for this alliance focused on achieving an early win so the criteria stipulated the material chosen should have a high level of inventory.

In the third dyad, the selection criteria was critical since the manufacturer progressed through extremely formal Search and Selection/Decision Stages. This dyad was shifting from a strategy of using multiple sources across several plants to using sole sources for each plant or product type. Given this significant change, competitive bidding was performed at the Selection/Decision Stage and based on evaluating the bids, final sourcing was determined. At the Search Stage, the manufacturer had to develop a pool of suppliers to invite to bid. Detailed selection criteria were established to create and refine this pool. The practice used was described by Spekman (1988) as creating a "threshold level" to reduce the complete list of potential suppliers to a smaller pool to facilitate final partner selection.

The selection criteria focused on several issues. For example, the following items were assessed to determine if the supplier: (1) met the strategic need or benefit expected; (2) was receptive to an alliance; (3) had a continuous improvement program; (4) was quality-oriented; (5) was located within acceptable geographic proximity to the manufacturing plant; and (6) provided a competitive price.

In all cases where selection criteria were formally established, it was related to the search criteria established at Need Awareness. The selection criteria was also consistent with the new purchasing strategy developed and the anticipated strategic goals.

Joint Operating Standards

Once the alliance partner was selected and agreed to participate, the firms determined joint operating standards. First, they discussed how the relationship would be managed and measured. These joint operating standards had to accomplish the goals developed and refined through the search and selection criteria and relate to strategic expectations. The firms also had to determine what information would be shared to manage the operations and in what form and frequency this communication would occur.

As the alliances progressed through Implementation, the operating standards were consistently assessed and refined through continuous improvement programs. Based on the questionnaires, the participants are satisfied with the operational aspects of the alliance. These manufacturers and two material suppliers strongly agree (one material supplier agrees) that each partner has carried out its responsibilities and commitments with respect to the alliance. All firms strongly agreed or agreed that work is done at both firms in a manner consistent with accepted standards.

The above discussion confirms that criteria are developed based on the goals driving Need Awareness and evolve into operating standards once the alliance partner is selected and agrees to participate. In some cases, the search and selection criteria are much more formalized and critical to alliance implementation. In other cases, the alliance partner is easier to distinguish and select such that formalized criteria are not as important to develop.

Research Question Two examined how partners actually develop joint operating standards at the Selection/Decision Stage: **How are joint operating standards determined?**

The main constructs used to determine and measure adherence to operating standards as developed from Bowersox et. al. (1990 and 1992) are supported in all three dyads. These constructs are as follows: formalization; information access; and connectivity. Both the interviews and questionnaires support this determination of operating standards. Expectations for operating standards are developed at the Selection/Decision Stage. Adherence to operating standards is assessed at the Implementation/Administration Stage.

Formalization

Joint operating standards are formalized when defined procedures and performance measures are determined in the Selection/Decision Stage. Defining procedures included determining how the operating plans, rules and daily practices would be managed and assigning roles and responsibilities to key alliance contacts. Much of this was accomplished during joint visits where assessments could be made of current operations and modifications were suggested to improve the overall system. These modifications included determining assigning responsibility for daily activities. Also, ground rules were established, including provisions for unexpected events. In one alliance the key contacts at the material supplier provided their home phone numbers to their counterparts at the manufacturer. This ensured the material supplier would be

involved if problems occurred, at any time day or night. Most of the alliances operate from defined, but not formally written, procedures. One alliance had formal written steps for completing daily activities such as the time of day that material requirements would be transmitted to the material supplier. Key contacts on both sides of the dyad understand these procedures.

Once the alliance is implemented and administered, modifications in operating procedures, rules and responsibilities may occur, especially if contacts are added or deleted and new technologies, such as EDI, are installed. The alliances studied appear comfortable with the procedures developed and jointly discuss potential improvements. One issue that some informants mentioned is the manufacturer's adherence to defined procedures. While not a major problem, the manufacturers may not be as consistent in meeting the agree-to deadlines for material requirements and design changes. This can cause supply disruptions and reduce alliance effectiveness. This inconsistency appears to result from a small power imbalance where the manufacturer is able to secure supplier compliance regardless of consistency to operating standards.

Performance measurements for the alliance were also determined at the Selection/Decision Stage. In all alliances, both partners understand what measures are tracked by the manufacturer, but it is not clear whether these measures were jointly developed. Based on the questionnaires, three manufacturers and two material suppliers strongly agreed that joint establishment of performance measures was critical to ultimate alliance success. The final material supplier agreed.

In one alliance, some of the measures were jointly developed. This alliance decided to track total system inventory which included the material supplier's raw material and finished goods inventory, as well as its inventory in the manufacturer's plant, and the manufacturer's finished goods inventory. This measure was critical to both partners as inventory restricts cash flow and means the end consumer is getting acceptable, but not extremely fresh, product. At the start of the alliance, over twenty-five weeks of total system inventory existed and inventory only turned twice a year. Currently, total system inventory has been reduced by about forty percent and inventory turns more than three times a year.

The performance measures tracked focus mainly on quality, delivery/service, price and inventory. Individual measures used by at least one alliance are grouped by four main categories: (1) quality is measured by reject rates, production down time due to defects and adherence to material specifications; (2) delivery/service is measured by on-time shipment, on-time delivery, material shortages determined by order fill/orders shipped complete, responsiveness to problems/issues and an overall service rating; (3) price is measured by adherence to price/volume structures; and (4) inventory is measured by inventory levels at the manufacturer, inventory turns and total system inventory. These measures correspond directly with the goals set by the manufacturer at the Need Awareness Stage and operationalize the achievement of these goals: (1) reduced costs; (2) increased competitive advantage; (3) improved quality; and (4) stabilized supply.

Feedback on performance information was also discussed and formalized during the Selection/Decision Stage. In two alliances, the feedback methods are very formalized and performance measures are shared at annual and/or quarterly reviews. Informants on both sides of the dyad concurred with the feedback method. In the other alliances, the approach for sharing feedback is not as well developed and informants' responses to the frequency of feedback varied. Both sides discussed how problems are conveyed immediately (which was true in all alliances). Informants at the manufacturers discussed how annual and monthly ratings were provided to the suppliers, but the informants at the suppliers felt no regular formal measures were provided. Rather, they perceived feedback was given sporadically and focused mostly on immediate problems and issues.

Information Access

In order to determine joint operating standards and formalize and define procedures, the partners must agree on what information they are willing and capable of sharing. Also, which contacts will have access to the information must be determined. Based on the questionnaires, all six firms strongly agreed that the key to a successful logistics alliance is information sharing.

Information access has two elements that are hypothesized to encourage information sharing and have a positive influence on the evaluation of operating standards. These dimensions are competence-based trust and cooperation. Competence-based trust has four aspects: (1) specific competence in operating

knowledge and skill; (2) individual's competence to effectively perform their responsibilities; (3) competence in business sense in terms of specialization and expertise; and (4) judgement reflected through decision making ability. Initial determination of the level of information access must include an assessment of each partner's competence-based trust. Firms would not share information, especially of a strategic nature, without estimating the partner's competency.

It is unlikely that firms would agree to form an alliance without some requisite level of competence-based trust between the partners. Initially, the level of competence-based trust expected may vary across alliances. As discussed under character-based trust, some of the alliances evolved from a prior business relationship while others had less familiarity. The alliances with more familiarity shared more information at the beginning of the alliance as a result of an established level of competence-based trust.

For example, the alliance that operates a vendor managed inventory program exhibited a high level of trust in the supplier's ability to effectively perform the necessary responsibilities. This trust encouraged the manufacturer to provide the supplier with daily access to inventory status at the manufacturer's plant, projected material requirements and long term production forecasts from the onset of the alliance. In less familiar alliances, there was a reluctance to share the same level of information. Informants discussed that the limited amount of information exchanged was restricting the alliance.

Cooperation at an operational level results when partners coordinate procedures and communicate to achieve mutual operating objectives. In all

cases, the level of operational coordination was and remains extremely high as exemplified by the use of ad hoc continuous improvement teams and close contacts between both partners' plants and operational personnel.

The alliance that illustrated high partner coordination under strategic effectiveness also illustrated high information access under operating standards through high competence-based trust and cooperation. Informants discussed how they trusted each other to adhere to operating standards and to perform promised activities from the beginning of the alliance. One informant said, "We've both walked the walk, not just talked the talk" to demonstrate operational performance. Competence-based trust was illustrated when the manufacturer asked the material supplier to provide design suggestions for highly confidential production plans. The manufacturer trusted the material supplier's competence. Further, operational cooperation began early in the alliance. The manufacturer shares projected usage information to help the material supplier plan its internal production requirements and the material supplier provides industry and material information to help the manufacturer plan its projected usage.

Connectivity

Connectivity implies that partners are highly responsive to each other's requests and that communication between the partners is easily facilitated (Bowersox et. al. 1992). Responsiveness requires speed and accuracy while technology facilitates ease of communication.

Initially, the partners exhibited responsiveness by jointly determining operating standards. In this sense, they were responsive to each other's suggestions, expectations and requirements. This level of responsiveness is still strong today as exemplified by weekly/daily updates and reviews.

In terms of technology adoption, none of the alliances initially invested in any new communication technology. Since implementation, one alliance has modified the relationship to include EDI to further facilitate communication. While technology was not adopted, ease of communication was originally addressed. In developing the operating procedures, the partners clearly identified in what form and frequency information would be shared including how key contacts would communicate.

Based on the above discussion, the determination and evaluation of adherence to operating standards provided in Chapter II is supported at both the Selection/Decision Stage and the Implementation/Administration Stage. These operating standards are related to strategic expectations in that they provide the means for accomplishing goals and objectives to facilitate alliance effectiveness.

Research Question Three examined how operating standards are evaluated and asked: **Do firms compare actual operating standards to initial operating standards?**

The comparison of initial operating standards to actual adherence is more clearly shown than comparisons of strategic effectiveness, especially with

respect to the defined procedures, performance measures, responsiveness and information sharing. Alliance partners evaluate adherence to procedures and assess performance measurement results. The three dimensions of operating standards are evaluated in terms of their ability to enhance or detract from adherence to defined procedures and their effect on performance assessments. These evaluations drive modifications in operating standards and pinpoint ways to improve performance.

One alliance partner felt that the operating objectives would be achieved to a greater extent if the level of information sharing was higher and involved strategic aspects. Kanter (1994) found many alliances failed to achieve full benefits due to "internal barriers to communication" which confined information sharing to a small set of alliance contacts. This lack of sharing developed from a lower level of cooperation and competence-based trust between the parties. The lower level of trust results in part from less familiarity between the partner's key contacts. Competence-based trust must be evaluated over time and partners must be able to exhibit their expertise and knowledge. If familiarity is low, it is difficult to build competence-based trust quickly.

A different alliance modified its operating procedures by including EDI which increased responsiveness dramatically, facilitated timely exchange and reduced leadtimes. Now, the partners are aware of quality issues within twenty-four hours of material receipt at the manufacturer's plant and can quickly resolve these issues before production downtime occurs.

The general alliance model, as shown in Figure 2.8, is supported. Criteria and operating standards evolve over alliance formation and maintenance. Operating standards are compared and evaluated at various reviews during Implementation/Administration and Assessment Stages.

Based on the information provided in the chapter, the feedback mechanism at the bottom of the general alliance model is also supported. Upon initial implementation, partners make evaluations of strategic and operational dimensions by (1) comparing expectations to perceptions of actual results to justify the alliance or (2) evaluating the elements of strategic effectiveness and operating standards to explain why expected results were not achieved or where opportunities for improvement exist. These comparisons and evaluations form the basis for assessments to be made concerning alliance performance. The assessments have dictated necessary modifications and have enabled the alliances to be sustained. In all cases, assessments are formally made at annual reviews which often include top management from both alliance partners. The annual reviews determine the goals and objectives for the next year as well as identify important modifications. The comparison and evaluation of these new goals, objectives and operating practices are administered, tracked, evaluated and assessed throughout the next year. This feedback mechanism is an essential activity for long term maintenance. Although Implementation/Administration and Assessment represent individual stages in the general alliance model, they are combined as the critical steps in feedback to drive alliance continuity.

Research Questions Four examined how adherence to operating standards leads to the decision to continue the alliance. This question was as follows: **What operating standards promote long term survival, through sustainment or modification, of the alliance?**

Perhaps the most important element of adherence to operating standards that will promote alliance survival is positive performance measurement on a continual basis. This coincides with the main strategic promotor of alliance success -- actual net benefit. If few strategic benefits are achieved and acceptable performance is not met, the alliance will be negatively assessed and possibly terminated. One manufacturer and three material suppliers felt the ability to meet performance expectations was extremely important to the success of the alliances as shown in the questionnaire data. Two manufacturers felt it was important for logistical alliance success. All three manufacturers and one material supplier felt accomplishing original objectives was important to the success of the alliances. The remaining two material suppliers felt it was extremely important.

Trust was ranked in the questionnaires as the highest factor leading to success in manufacturer-material supplier alliances. All six firms strongly agreed trust was critical for alliance success. In terms of the specific alliances, one manufacturer and two material suppliers characterized the relationship as exhibiting extremely high trust and the remaining firms responded that trust was exhibited but did not rate trust as extremely high. It is important to note that trust was not distinguished by character and competence-bases in the

questionnaire. In all cases, the existence or lack of high trust had significant implications for information sharing and cooperation at both strategic and operational levels.

Responsiveness to issues also appears critical to long term survival. The manufacturer informants were very pleased with the service level and responsiveness provided by the material suppliers. Some informants at the material suppliers were concerned that the manufacturers are not as responsive to problems they cause in adherence to operating standards.

Interestingly, the level of technology adoption does not appear critical to long term survival since only one alliance operates with advanced information technology (EDI). One potential explanation is that current communication methods in the remaining alliances, while not highly technical, are sufficient. The manufacturers in these alliances have not have incorporated these technologies internally (although all use EDI and barcoding with their external customers). The level of flexibility and responsiveness, required in the manufacturers' outbound relationships, may not be necessary in their internal manufacturing/inbound systems.

OPERATIONAL COMPONENT - CONCLUSION

The Operational Component questions have been answered and support this component of the general alliance model. Since all three components of the general alliance model were individually supported, the entire model is also supported. The general alliance model is shown in Figure 2.8.

At Need Awareness, the manufacturer developed criteria to clarify the new procurement strategy. These criteria provided systems for implementing the strategy and for achieving the strategic goals identified.

The Search Stage focused on choosing the alliance partner in two cases. The criteria developed for partner selection was extremely detailed and formalized. The selection criteria related to the search criteria and the objectives for the procurement strategy. In another alliance, the selection criteria was established to determine which material was the best candidate for an alliance. The criteria was not as formalized as the partner selection criteria used in the other two alliances. Since the material selection choice was easier to evaluate, the final selection for this alliance was relatively minor. Once the specific material was chosen, the sole source providing the material was approached about alliance formation. The fourth alliance evolved from an existing relationship where the partner was easily distinguished due to its technical expertise. Access to technology was a goal identified by the manufacturer during Need Awareness.

When the alliance partner was selected and both agreed to form the alliance, joint operating standards were determined. Standards were developed along three dimensions: formalization; information access; and connectivity. During Implementation/Administration, the partners evaluated adherence to these operating standards. Comparisons were made between the initially agree to procedures and the perceptions of adherence. The comparison facilitates the Assessment Stage by identifying areas for modification.

A formal comparison of initial operating standards to actual adherence is completed at Assessment. Key success factors include achieving expected levels of performance measurements, following defined procedures, remaining responsive to the partner's requests and sharing key information. Meeting performance expectations is especially important. Other dimensions, such as competence-based trust, are evaluated to determine their effect on performance measurement. These dimensions are used to identify modifications in operating standards that will continually improve performance. If modifications are not required, the alliance is sustained. If performance is extremely poor and the partners feel modification is not a viable option, the alliance may be terminated.

The most important element in adherence to operating standards that promotes alliance vitality is meeting performance expectations. Competence-based trust encourages information sharing and cooperation, increasing alliance longevity. Responsiveness is also important for maintaining trust, achieving performance improvements and alliance continuity. Manufacturers must remain responsive to areas where their compliance with defined procedures is low.

The level of technological sophistication was not a key element of long term viability. The more important aspect was the ability to communicate sufficient and accurate information in a timely manner, regardless of the technology utilized.

The most important conclusion concerning the general alliance model is the viability of the feedback mechanism which includes the final two stages -- Implementation/Administration and Assessment. Two-way feedback

concerning strategic effectiveness and adherence to operating standards is essential for long term continuity. The interwoven relationship between the Process, Strategic and Operational Components is illustrated in this feedback mechanism and will be discussed further in Chapter V.

SUMMARY

The research questions were answered and supported the general alliance model through convergent evidence from informant interviews, questionnaires, documentation and observation. Insights that refine the model suggest the determination of expected effectiveness and joint operating standards may not equally weigh all the dimensions of those measures, especially if partner familiarity is at a lower level. When comparisons are made of expectations and perceptions of strategic effectiveness only a few dimensions may be utilized. The remaining dimensions explain why expectations were not met to the extent anticipated or identify areas for improvement. In terms of evaluating operating standards, more of the dimensions are used in direct comparisons between expectations and perceptions of actual performance than occurred with strategic effectiveness. In both cases, dimensions serve to indicate where improvements can be made in the alliance structure.

CHAPTER V

CONCLUSIONS

This chapter begins with a discussion of general conclusions resulting from the case analysis. Next, conceptual and managerial contributions of the research are presented. Finally, limitations and future research directions are provided.

DISCUSSION

The general alliance model (Figure 5.1) posits three components that detail (1) the formation and maintenance of an alliance (Process Component); (2) the development of strategic expectations and evaluations of alliance effectiveness (Strategic Component); and (3) the development of search/selection criteria and operating standards (Operational Component). Previous presentation of the model has treated each component individually to facilitate research organization and ease of understanding. The presentation format divided the general alliance model vertically to enable each component to be discussed as a development sequence and to be examined in terms of the research questions addressed in Chapter IV.

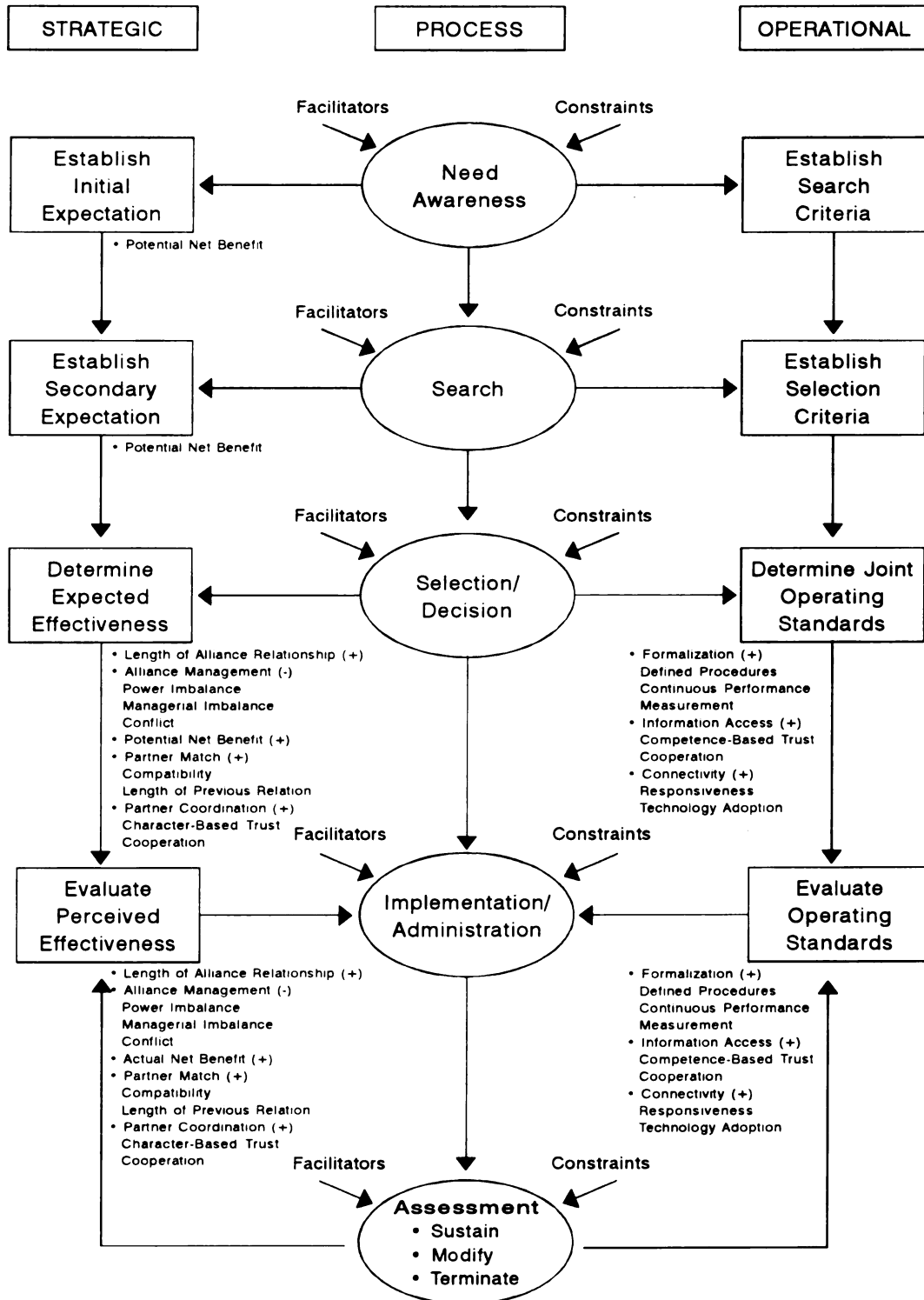


Figure 5.1
General Alliance Model

Given this foundation, the presentation format for this chapter examines the components horizontally in an effort to integrate the Process, Strategic and Operational Components. Conclusions regarding the general alliance model are discussed in terms of four levels, positioned **horizontally**, which combine the three components. The following four levels integrate the model's components:

- (1) Level One -- Alliance Conceptualization -- commences when a firm determines a collaborative arrangement has appeal and provides a potential alternative to traditional buyer-seller relationships;
- (2) Level Two -- Alliance Pursuance -- finalizes the decision to form an alliance and establishes the strategic and operational considerations that will be used to select the alliance partner;
- (3) Level Three -- Alliance Confirmation -- focuses on partner selection and confirmation. Strategic and operational expectations for the arrangement are jointly determined and the relationship is solidified; and
- (4) Level Four -- Alliance Implementation/Continuity -- occurs over time during which the alliance is continually administered and assessed through a feedback mechanism to determine whether the alliance is sustained, modified or terminated.

To facilitate and clarify discussion a figure is provided for each level.

LEVEL ONE -- ALLIANCE CONCEPTUALIZATION

Alliance Conceptualization, illustrated in Figure 5.2, began in this research when each manufacturer determined a change in procurement strategy and practice was justified. This realization was triggered by competitive forces, such as globalization and industry consolidation, as well as observations of successful and innovative purchasing strategies used in other industries.

Quality problems also encouraged the recognition that changes in the existing procurement strategy were needed.

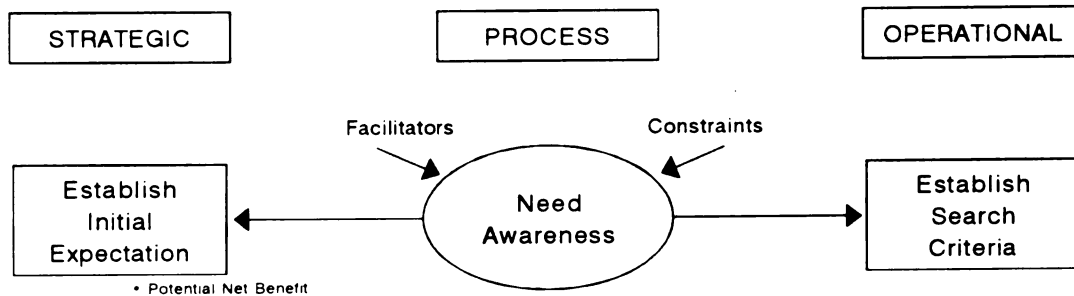


Figure 5.2
Alliance Conceptualization

Each manufacturer studied established strategic goals for the revised procurement strategy. The primary goals identified were cost reduction, increased competitive advantage, quality improvements and supply stability. Other common goals were inventory reduction and access to suppliers' technology. Based on these goals, manufacturers developed initial expectations concerning the potential benefits of the new procurement strategy.

Criteria for selecting the desired changes in procurement were consistent with the manufacturers' strategic goals and initial expectations. Manufacturers reviewed and evaluated innovative purchasing practices until one specific strategy was selected. While each participating manufacturer chose a different procurement strategy, one common aspect existed. All manufacturers determined collaborative arrangements were a viable substitute for traditional

adversarial purchasing practices. They shared a common belief that alliances offered the best opportunity for developing the most effective procurement system which would achieve their strategic goals.

Typical barriers to Alliance Conceptualization were the manufacturers' fear of change and the inability to relinquish traditional procurement practices. It was important for the manufacturer to acknowledge that these difficulties existed. To reduce the fear of change and to encourage adoption of the new procurement strategy, some manufacturers established training programs to explain new work practices and their impact on job responsibilities.

Alliance Conceptualization would occur as described above regardless of whether the initiating party was a manufacturer or a material supplier.¹ If the material supplier was initiating the relationship, it would be driven by a change in marketing, not procurement, strategy. From a market position, the alliance would be viewed as a way to gain competitive advantage by creating high switching costs and offering value-added services. The strategic goals would focus on increased sales volume and profit margin, cost reduction, demand stability, shorter leadtime, lower inventory and improved quality.

LEVEL TWO -- ALLIANCE PURSUANCE

Figure 5.3 illustrates Alliance Pursuance during which the manufacturers clarified and defined their new procurement strategies and finalized the decision

¹ It is important to note that the term material supplier is used broadly to include raw material, material, commodity and component part suppliers.

to pursue an alliance. Rogers (1962) proposed that before an organization implements a major change, it will first search for detailed information concerning the intended change. The manufacturers reviewed how an alliance could be established and administered through new procurement practices to achieve the desired strategic goals. This review examined the initial goals established during Alliance Conceptualization. Secondary goals were created that refined the initial goals and identified the degree of achievement possible. For example, if an initial goal was inventory reduction, the secondary goal was refined as an order of expected magnitude, such as achieving a twenty percent inventory reduction.

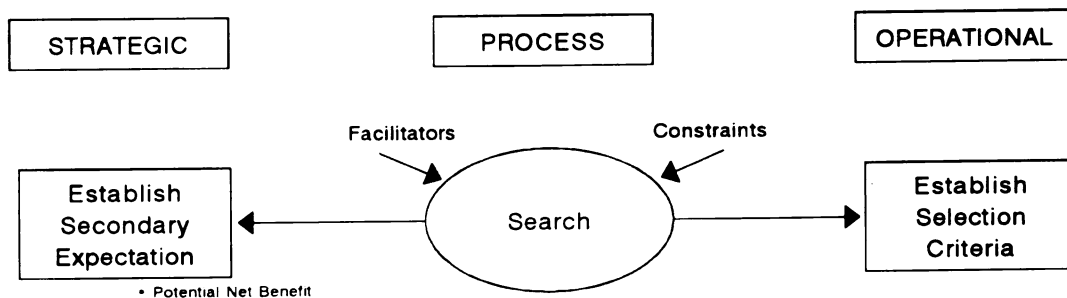


Figure 5.3
Alliance Pursuance

The secondary goals helped to identify the strategic and operational characteristics that a material supplier should possess to qualify as a potential alliance partner. Selection criteria were developed that included these characteristics. The selection criteria generally focused on either the suppliers'

attributes or the material specifications. For example, if the secondary goal was to improve quality, selection criteria may require suppliers to have ISO 9000 certification before they could be considered for an alliance.

When focused on material specifications instead of partner attributes, the selection criteria were still based on the secondary goals. For example, if a goal was to decrease inventory levels, the selection criteria focused on which materials offered the greatest potential for inventory reduction. It is unlikely that materials operating with sufficiently low inventory would achieve significant inventory reduction. As such, the selection criteria would focus on materials with unnecessarily high inventory levels.

The selection criteria served to reduce the range of potential partners from a large group to a small pool of finalists. This reduced the time and expense of detailed evaluation by eliminating suppliers unable to meet threshold criteria before in-depth selection analysis was performed.

As a general conclusion, an alliance will provide the greatest opportunities for improvement when the relationship is developed around materials that are strategically important to both partners. This consideration is an important aspect of the selection criteria. In the alliances studied, the materials involved were critical to each manufacturers' production system. The strategic nature of the material encouraged the manufacturer to pursue an alliance to better manage the business relationship. The selection criteria included an assessment of whether the potential partner would also view the relationship as important. Each manufacturer chose a material supplier that had

a strategic interest in the alliance. In three situations, the manufacturer selected a material supplier that was a sole source for either a product line or a specific manufacturing plant. In the fourth alliance, the manufacturer was the material supplier's largest customer in terms of volume and profit. Thus, each manufacturer ensured the material supplier would also have a vested interest in the relationship.

The assessment of mutual interest is a necessary part of selection criteria. Strategic importance is key to alliance success. Anderson and Weitz (1989) concluded that if either partner in an alliance has a small stake in the rewards, that partner will feel the relationship does not deserve the time and effort and, it follows that communication will suffer. If the alliance is strategically important to both partners, each will have a high stake in the relationship and will be concerned with alliance success. As such, when the initiating party uses the selection criteria to reduce the large pool of potential partners to a small group of finalists, one of the key characteristics must be whether each finalist will view the alliance as strategically important.

LEVEL THREE -- ALLIANCE CONFIRMATION

Level three, Alliance Confirmation, is illustrated in Figure 5.4. The manufacturers evaluated the small pool of candidates identified in Alliance Pursuance and selected a final partner or material, depending on the focus of the selection criteria. The comparison of candidates or materials can occur with or without the suppliers' knowledge. In one alliance, the manufacturer

determined which material and associated logistical services offered the best fit for its new vendor managed inventory program. Once selected, the sole source providing the material was approached about forming an alliance. In two alliances, material suppliers participated in competitive bidding to qualify as a sole source for a specific product line or plant. Participants knew they were under consideration for a collaborative arrangement.

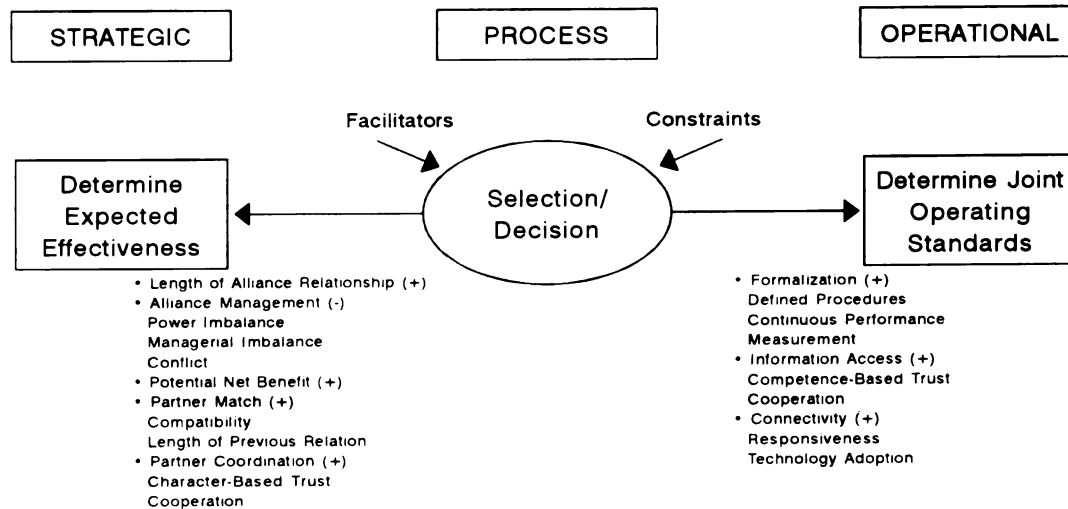


Figure 5.4
Alliance Confirmation

Once the final partner was selected, both firms committed to forming an alliance. Greiner (1967) highlighted the need for full commitment which can be communicated through verbal agreement or with a formal written contract. Written contracts vary in terms of length of time and content. Half of the alliances studied utilized written contractual provisions.

In terms of whether verbal or written commitment is better, it is important to understand that the key is not the contract itself, but that the partners perceive long term commitment and relationship continuity exists. In other words, if the relationship cultivates long term commitment to the alliance, the contract, if required, becomes a formality. The relationship is the binding force that encourages alliance perseverance. This is documented by the questionnaire responses concerning whether a logistics alliance must have a written contract. Manufacturers' responses were consistent with their actual behavior but only half of the suppliers' responses were consistent with what occurred in the alliance. Table 4.3 illustrates the comparison of responses.

In two cases where the partners' responses were consistent across the informants, one alliance had a contract and the other did not. The participants in the alliance with a contract strongly agreed it was important for successful alliances. The contract served as a signal of long term commitment. The alliance partners that did not have a contract disagreed it was important. Their relationship signaled long term commitment without the necessity of a legal agreement.

In the remaining two alliances, the partners' responses were not consistent -- one alliance had a contract and the other did not. In the alliance supported by a contract, the manufacturer strongly agreed the contract was important but the material supplier disagreed. This indicates that the material supplier is comfortable with the long term commitment or social contract provided by the working relationship. The manufacturer may concur, but

needed the contract to follow internal operating practices. In the alliance without a contract, the manufacturer disagreed the contract was important, but the material supplier strongly agreed. The material supplier may be implying long term commitment is not exemplified in the working relationship and a contract would serve as a form of long term security. The manufacturer may feel comfortable with its commitment or it may not want extensive commitment so a contract is not issued.

Before partners fully commit, it is important that they individually form expectations of strategic effectiveness and determine what operating standards should be established. The most detailed expectations are potential net benefit in the Strategic Component and performance measurement in the Operational Component. These are the most quantified dimensions of strategic effectiveness and adherence to operating standards, respectively.

The material suppliers formed goals when they were selected as the alliance partner during Alliance Confirmation. The main goal suppliers aspired to was increased competitive advantage by providing value-added services beyond their competitors' offerings. These services would create a dependency on the material supplier and increase the cost for the manufacturer to switch suppliers. The suppliers also expected the alliances to stabilize demand patterns, reduce overall cost and improve customer service.

The remaining dimensions of strategic effectiveness (length of alliance relationship, alliance management, partner match and partner coordination) do not require the establishment of specific expectations. Rather, it is important

for each partner to develop an understanding of how the alliance will be strategically managed to achieve the expected goals. This conceptualization enables partners to consider strategic concerns which may limit alliance effectiveness. For example, the partners must assess how power and managerial imbalances will be mitigated as well as how conflicts will be resolved (elements of alliance management) to enable alliance success.

The same holds true for the dimensions of operating standards (formalization, information access and connectivity). Each partner must develop an understanding concerning how the alliance will be managed on a daily basis. For example, the material supplier may expect access to the manufacturer's weekly production requirements and quarterly forecasts in order to stabilize its demand patterns.

Once the partners established individual strategic and operational expectations, the partners jointly discussed and may have modified these expectations. For example, the manufacturer may have envisioned it would communicate its requirements directly to the supplier's various plants. Through joint discussion, the material supplier stated it would dedicate an employee as the central contact for the manufacturer. This central contact would receive the production requirements and internally manage allocation to the appropriate plants. This arrangement would allow the manufacturer to place one order with the central contact as opposed to multiple orders with each plant.

The partners integrated individual strategic expectations by establishing a common set of goals and objectives. Operating procedures and plans were

jointly formalized. Performance measures were identified to track goal achievement and adherence to operating standards. Partners also agreed on what information would be shared and the frequency and form of communication. Each partners' roles and responsibilities were specified and key contacts were assigned to perform the necessary tasks.

Although no investment in physical resources or equipment was necessary to initiate the alliances studied in this research, it is important that partners discuss the need for such investments. If significant investment is required at initial implementation, the partners must agree on the arrangement prior to financial commitment.

LEVEL FOUR -- ALLIANCE IMPLEMENTATION/CONTINUITY

Figure 5.5 illustrates Alliance Implementation/Continuity. Note that this level combines the Implementation/Administration and Assessment Stages. These stages are integrated to enable a feedback mechanism to operate. Once the partners established full commitment and determined strategic expectations and joint operating standards, the alliance relationship was implemented. Technical and social knowledge was exchanged to facilitate implementation.

During implementation, key alliance contacts visited each partners' facilities to meet face-to-face and develop a better understanding of both operations. These visits were critical for successfully managing alliance implementation, and signaled a changing relationship between the partners that was supported financially by top management. More importantly, these visits

facilitated the development of personal relationships between key contacts and the establishment of strategic and operational levels of trust and cooperation.

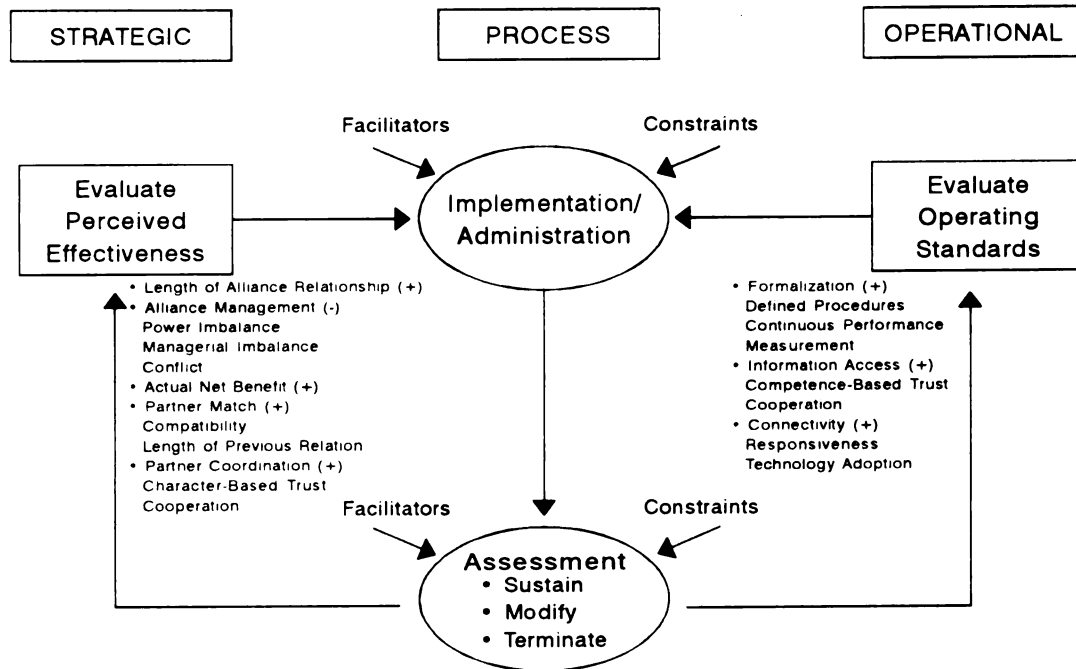


Figure 5.5
Alliance Implementation/Continuity

As the key contacts began to develop personal relationships and build trust, loyalty toward each other and the alliance was established. This loyalty developed into a strong camaraderie not seen in traditional adversarial relationships. This unique bond between key contacts creates a united front, a term first used in Chapter IV of this dissertation. Spekman and Sawhney (1990) alluded to this united front when they described how the linkages between successful partners are often so strong that "the boundaries blur and

it is difficult to discern where one organization begins and the other ends." Kanter (1989) discussed how the contacts may become closer (more loyal) to the alliance than they are to their own organization. Due to the importance of the united front and its unique contribution to this research, a section, devoted to the concept, is provided later in this chapter under Concluding Observations.

While none of the alliances studied initially invested in tooling, production equipment or information technology, they did invest in human resources in terms of time, training, joint visits and dedicated employees. Kanter (1994) discussed the importance of human resource investment, but acknowledged that top executives "devote more time to screening potential partners in financial terms than to managing the partnership in human terms." Human resource investment encouraged and facilitated key contact ownership and allowed these contacts to manage the relationship.

In terms of implementing operational changes as well as new practices and procedures, it is important to start slowly and concentrate on small incremental changes, not radical changes. Small changes were managed quickly and employees were motivated by early success. Further, the implementation stage set the tone or environment for each alliance. If the partners try to accomplish too much too quickly, it is likely to result in frustration and to create a negative environment.

One potential barrier to implementation is the inability to abandon traditional strategic and operational practices which includes overcoming fear of change. Incompatible systems and the inability to secure required resources

may hinder implementation as well. It is critical that the alliance partners carefully consider these issues before implementation begins to resolve or work through the problems early.

Once the alliance was stabilized and operational, the partners formally assessed the relationship. Original strategic goals and objectives were reviewed and partners evaluated whether operating standards were adhered to. Greiner (1967) terms this evaluation as a "search for signs of payoff." The assessment determined if the alliance should be sustained, modified or terminated. In all four alliances studied, the assessments were positive and the alliances were sustained or modified. Modifications included incorporating EDI into the operating structure, investing in production equipment and expanding the alliance to encompass additional plants.

The assessment included strategic and operational considerations. Comparisons were made between realized and expected benefits on a strategic level. Operational comparisons evaluated performance measurements, reviewed adherence to defined procedures and determined whether the information shared was sufficient and timely. The remaining factors of strategic effectiveness and operating standards were used to justify the assessment and indicate areas for modification.

The future course of action for the alliance was also determined during assessment. If sustained, the alliance operates between the Administration and Assessment Stages until the partners decided to further modify the alliance. Another option at assessment is termination. This option was not chosen in

the four alliances studied. At any time, if modification was chosen, the changes in strategic effectiveness and/or operating standards were implemented and then assessed. This assessment compared the actual results of the modification to the expected results.

Strategic and operational evaluations occurred at three different time intervals. Annual reviews were the most formal evaluations. These reviews concentrated on the evaluation of strategic effectiveness and included setting new goals and objectives, determining future direction and forming continuous improvement programs.

Quarterly or monthly reviews combined strategic and operational evaluations. Progress on goals was tracked and performance measurement results were reviewed. While these reviews were relatively formal, they were only used in half of the relationships studied.

Weekly/daily reviews were informal evaluations that occurred as needed. These reviews focused on operational problems and were critical to preventing dysfunctional conflict. These reviews allowed problems to be resolved early and illustrated each partner's responsiveness and dedication to the alliance.

The essential ingredients needed to promote long term survival were the achievement of strategic net benefit and positive performance results. Strategic and operational success was facilitated by establishing mutual goals, encouraging continuous improvements, avoiding piece price myopia, developing high levels of character and competence-based trust and being highly responsive to the needs of the alliance.

CONCEPTUAL CONTRIBUTIONS

Five conceptual contributions to improve understanding of alliance formation and maintenance result from this dissertation. These contributions are as follows: (1) the stages of alliance formation and maintenance (Process Component); (2) the evaluation of strategic effectiveness (Strategic Component); (3) the evaluation of adherence to operating standards (Operational Component); (4) the general alliance model; and (5) the research methodology. The first three contributions use the vertical structure to examine the components of the general alliance model individually without integration. Integration is provided in terms of the fourth and fifth contribution.

It is important to note that the goal of the dissertation was theory building, not theory testing. As such, the dissertation contributions are conceptual and aid in theory development.

PROCESS COMPONENT

The creation of the Process Component (Figure 5.6) is contributory in several respects. First, the five stages of alliance formation and maintenance are compiled and adapted from existing literature to provide theoretical justification and to create new theory specific to alliances. Thompson's (1967) theory of determinacy was used to explain why alliances evolve and a stage model was developed to detail how alliances evolve.

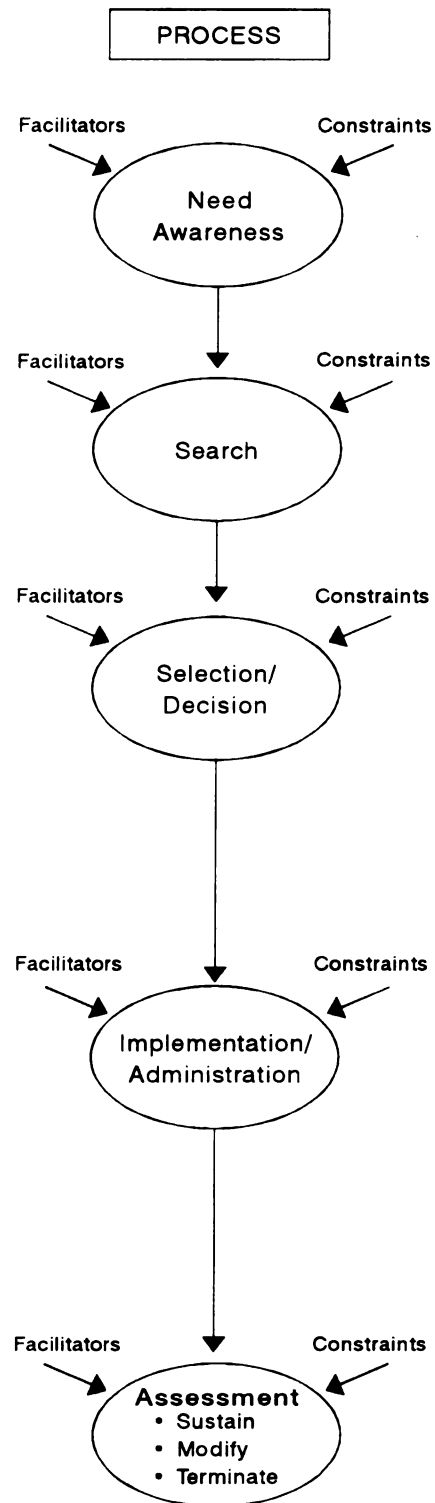


Figure 5.6
The Process Component

Through these actions, alliances are launched from the integration of two individual firms. This new alliance organization theoretically supports the concept of a united front. A united front occurs when the key contacts in the alliance develop loyalty for each other and the alliance itself. This loyalty may exceed the allegiance each contact feels for its own organization. The alliance essentially develops its own culture and organization that is expressed through the united front. The proposition that a new alliance organization is formed which can be measured or illustrated by the strength of the united front is a unique theoretical contribution.

The five stages of the Process Component were created to explain alliance formation and maintenance. Instead of using an existing stage model, an original framework was constructed to detail the unique stages of progression specific to alliances. This framework serves as a guideline for research concerning alliance formation and maintenance.

One problem with most stage models is the difficulty determining where one stage concludes and another is initiated. This difficulty is accentuated in two situations: (1) when a firm tries to use the framework to guide change, but cannot pinpoint where it is positioned on the model; or (2) when a researcher tries to assess individual firms' status in terms of the model. For example, product life cycle models have historically been criticized because it is difficult to position products into precise stages.

The Process Component was developed to help overcome this criticism. The five stages were defined in terms of concrete events that trigger when

stages begin and conclude. These stage boundaries eliminate the ambiguity associated with typical stage models. For example, it is easy to discern the Selection/Decision Stage as beginning when a small pool of potential candidates is evaluated and ending when one partner is chosen to form an alliance. The Process Component provides the stages of alliance formation and maintenance that are easily distinguished for academic use. The framework serves as an effective managerial guideline for alliance creation and long term continuity.

The Process Component was supported in the dissertation. The four alliances studied progressed through the five stages. The stages identified were Need Awareness, Search, Selection/Decision, Implementation/Administration and Assessment. Facilitators and constraints for each stage of alliance formation and maintenance were identified. These activities indicated actions or events that support or severely hinder alliance progress and success.

When the alliance partners had an extensive business relationship or when the partner surpassed competitors in terms of alliance potential, the Search and Selection/Decision Stages were relatively minor. In these situations, the two stages were not as critical to alliance formation because the partner was chosen very quickly and without extensive effort. Limited time was spent searching for information on alliances and selecting the final partner. This serves as an important guideline for managers which will be discussed further under the section on managerial contributions.

STRATEGIC COMPONENT

The measure of alliance effectiveness developed by Bucklin and Sengupta (1992 and 1993) was extended and replicated in this dissertation. Their measure used five constructs: (1) length of alliance relationship; (2) alliance management; (3) actual net benefit; (4) partner match; and (5) rate of technical change. Technical change was not included in this dissertation as it was specific to the co-marketing alliances examined in the Bucklin and Sengupta (1992 and 1993) research.

Partner coordination was an additional construct developed in this dissertation to expand the Bucklin and Sengupta measure. Partner coordination has two elements that were proposed to influence strategic effectiveness: (1) character-based trust; and (2) cooperation. Literature, reviewed in Chapter II, revealed these two elements were directly related to alliance success, theoretically supporting their inclusion in strategic effectiveness. The measure of strategic effectiveness used in this dissertation enhances the Bucklin and Sengupta measure by including both critical elements.

Extension of the Bucklin and Sengupta research was also achieved by detailing the sequential steps that lead to strategic effectiveness. These steps and the measure of strategic effectiveness were combined to create the Strategic Component illustrated in Figure 5.7. The Bucklin and Sengupta measure was static in that it limited examination to perceived effectiveness without providing an explanation of how these perceptions developed or how firms used their perceptions to assess alliance success.

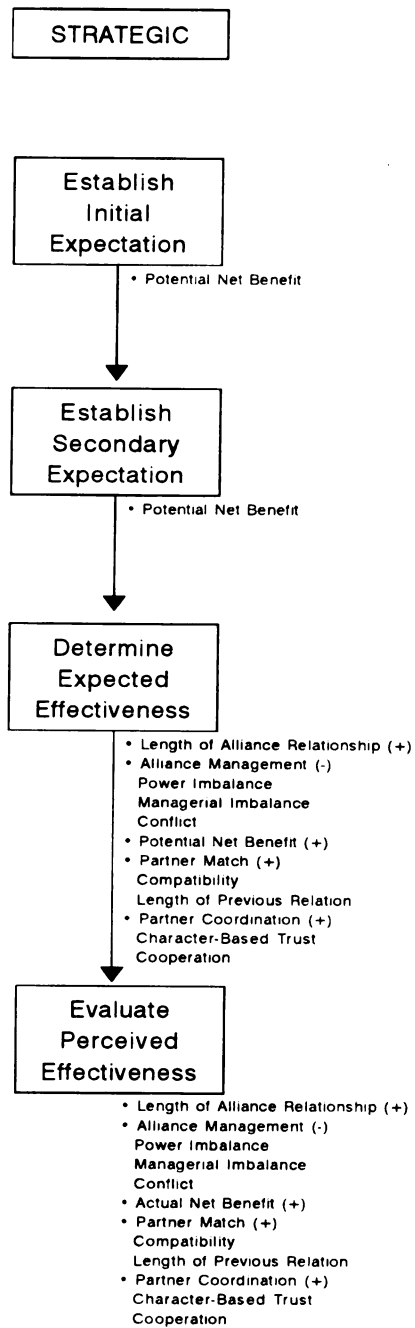


Figure 5.7
The Strategic Component

The Strategic Component details how the perception of strategic effectiveness evolves as the alliance progresses through stages of alliance formation and maintenance (Process Component). This provides a dynamic understanding of strategic effectiveness over alliance progression. The extension positions the assessment of strategic effectiveness as a critical activity for alliance continuity since it is used in the feedback mechanism to determine whether the alliance is sustained, modified or terminated.

The four dimensions of strategic effectiveness directly adapted from Bucklin and Sengupta (1992 and 1993) were confirmed in the dyadic case research. Confirmation was given in terms of the relevancy and influence (positive or negative) of each dimension concerning the perception of strategic effectiveness. This confirmation provides literal replication for the Bucklin and Sengupta (1992 and 1993) research. Literal replication occurs when two or more cases support the same theory by providing similar results (Yin 1989). This is important for two reasons. First, replication provides support for the theory adapted and extended from the Bucklin and Sengupta (1992 and 1993) research. Second, replication occurred using a different methodology and research scope. Bucklin and Sengupta (1992 and 1993) used a quantitative survey and analyzed co-marketing alliances between manufacturers using ordinary least squares estimation. This dissertation used in-depth case research to examine logistical alliances between manufacturers and material suppliers. The dissertation research relied primarily on informant interviews and questionnaires that were used as convergent evidence, not in statistical

analysis. Replication via different methodological paths increases convergent validity for the measure of strategic effectiveness since similar results were achieved using a separate research methodology.

Length of alliance relationship, actual net benefit and partner match were positively associated with the perception that the alliance was effective and successful in both research initiatives. Problems with alliance management were not an issue in the alliances studied for this dissertation, but were mentioned by participants as factors that would negatively affect the evaluation of alliance effectiveness as shown in the Bucklin and Sengupta study. Partner coordination had a positive influence on the evaluation of alliance effectiveness.

Of the five dimensions, actual net benefit was clearly the most easily identified and evaluated by alliance partners. Expectations of net benefits developed as the alliance progressed, so they were highly detailed when the evaluation of strategic effectiveness was made. Further, this dimension was the most quantitative of the five used to evaluate strategic effectiveness. Quantitative aspects facilitated conceptualization and evaluation.

The remaining four dimensions of strategic effectiveness were more qualitative and difficult to evaluate in a comparative manner (i.e., expectations compared to perceptions of actual effectiveness). The qualitative dimensions were used to justify alliance assessment and evaluate where important changes could be made to fully realize alliance benefits.

OPERATIONAL COMPONENT

The measure of adherence to operating standards was adapted from research on alliance integration conducted by Bowersox et. al. (1990 and 1992) who identified three attributes that were required for successful alliance performance. These attributes -- formalization, information access and connectivity -- were refined in this dissertation and used as dimensions of joint operating standards.² Elements were created in the dissertation to define the parameters and considerations of each dimension. These elements focused on the operational requirements of alliance success. The Bowersox et. al. (1990 and 1992) research was enhanced by the development of elements to define the three dimensions and the use of these dimensions as a measure of adherence to operating standards.

The Bowersox et. al. (1990 and 1992) research was further extended in the dissertation by detailing how operating standards develop and are evaluated. Evaluation concerns actual adherence to the defined procedures and performance measures used to guide the alliance. This extension occurs as a series of steps and is illustrated in Figure 5.8 as the Operational Component.

At Need Awareness, the partner who initiates the alliance develops search criteria to determine whether an alliance is a viable business alternative. This criteria evaluates the benefits and costs to forming an alliance as well as

² It is important to note that at the same time this dissertation was being completed, Dr. Bowersox and a group of researchers at Michigan State University were in the process of revising the three attributes (formalization, information access and connectivity) and their elements as a part of research on global logistics best practice.

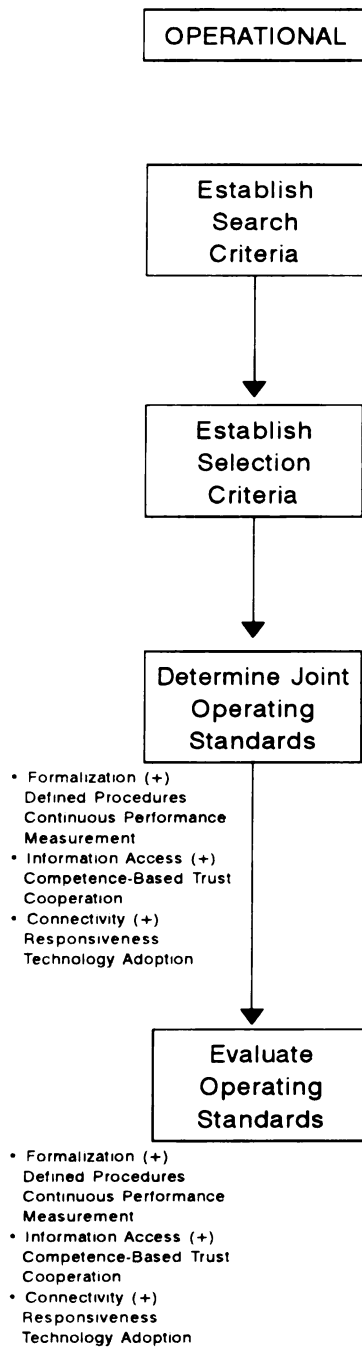


Figure 5.8
The Operational Component

the operational requirements for managing an alliance. At the Search Stage, criteria evolve and focus on the attributes or characteristics required for a potential alliance partner. The selection criteria are used to determine a final partner. Once the partner is chosen, joint operating standards are determined to guide alliance activity. At the Implementation/Administration and Assessment Stages, a comparison is made between the joint operating standards developed at Implementation and the actual adherence to these operating standards. The assessment is used to determine whether the alliance should be sustained, modified or terminated.

The extension and use of sequential steps explains how operating standards are determined and examined. These steps enable the assessment of alliance performance to include an evaluation of adherence to operating standards. This provides a dynamic understanding of operating standards over the alliance formation and maintenance stages.

The three dimensions of joint operating standards were positively associated with the perception that the alliance was successful and achieving the expected performance results. Performance measurement, under the formalization dimension, was easily identified and evaluated similar to actual net benefit in the measure of strategic effectiveness. This is due to the fact that performance measurement is also quantitative. The two remaining dimensions were evaluated to justify assessment and identify opportunities to improve the operational aspects of the alliance. These results are consistent with the research conducted by Bowersox et. al. (1990 and 1992).

The dissertation results provide literal replication of the Bowersox et. al. (1990 and 1992) research. This replication strengthens theoretical support for the measure. Bowersox et. al. (1990 and 1992) utilized a case methodology, but the cases were not dyadic and did not involve multiple informants within each firm. As such, the research methodology used in this dissertation is different. The dissertation research provided the opportunity to achieve convergent lines of inquiry from multiple informants at different levels within alliance dyads. The use of multiple informants within dyadic cases offered a more encompassing and stronger research methodology as compared to the Bowersox et. al. (1990 and 1992) research effort. As such, this method of inquiry does strengthen replication by increasing convergent validity.

GENERAL ALLIANCE MODEL

The general alliance model (Figure 5.1) contributes to the current literature base on alliances by combining Thompson's Theory of Determinacy and an alliance-specific stage model with extended and replicated strategic (Bucklin and Sengupta 1992 and 1993) and operational (Bowersox et. al. 1990 and 1992) measures of alliance success. This combination facilitates dynamic understanding of alliance structure and progression. The strategic and operational measures were extended through theoretical refinement as well as through sequential development. The general alliance model illustrates how alliances progress in terms of the process stages and strategic and operational

effectiveness. This framework enables academicians to examine and research alliances as they progress through formation, maintenance and assessment.

One main strength of the model is the dynamic progression of alliance formation and maintenance. Many of the models used to evaluate alliance effectiveness are static and only applicable to a specific point in time in the alliance. The general alliance model provides a framework for alliance implementation, maintenance and evaluation over the life of the alliance. The evaluation serves as a decision point to determine whether the alliance will be sustained, modified or terminated.

The model is robust and can be used to research various alliance relationships. The model is not specific to any industry or channel position. As an example, the model is applicable to research concerning alliances between manufacturers and wholesalers as well as between two competing manufacturers.

The model is also versatile and can be applied under varied research requirements. The components can be examined individually to indicate sequential events that occur in one specific area, such as process stages, or the model can be examined horizontally across components to analyze the integration of process, strategic and operational actions. The model can be tested in its entirety, as individual vertical components or as individual horizontal levels.

The general alliance model provides a multidimensional measure of trust: character and competence-based trust. This is a unique contribution achieved

by combining Gabarro (1978 and 1987) and Ganesan's (1994) delineation of trust and expanding this combined measure by distinguishing between strategic and operational elements of trust. Character-based trust is an element of partner coordination, which is a dimension of strategic effectiveness. Competence-based trust is an element of information access, which is a dimension of joint operating standards. These measures of trust were supported by Ganesan's (1994) assertion that "a multidimensional approach provides greater diagnosticity." Since trust has been a difficult construct to operationalize for academic research, a multidimensional approach provides a more detailed definition of trust. This will foster a new level of understanding of trust as it operates in the context of collaborative arrangements. A multidimensional approach was also included to understand strategic and operational aspects of cooperation in collaborative arrangements.

The dissertation supported the individual components as well as the general alliance model (Figure 5.1). The model provides a dynamic evaluation of alliances that extends and replicates other theoretically supported and tested research. The general alliance model is comprehensive and detailed providing a basis for an ongoing research stream. Suggested areas of research supported by the model will be discussed in the section on future research.

RESEARCH METHODOLOGY

The research methodology provided an in-depth understanding of alliance behavior. This was accomplished in two ways. First, the methodology enabled

a dyadic focus where both firms in the alliance participated in the research. This dyadic focus allowed the partner's perceptions to be compared providing convergent evidence of alliance behavior. As discussed by Achrol, Reve and Stern (1983), dyadic research is critical for developing and testing theory concerning social and economical exchange. Exchange research that focuses on one party instead of the dyad limits theory extension since convergent evidence is not gathered to confirm perceptions across the dyad and to enhance construct validity.

Second, multiple informants within each dyad were interviewed. In total, thirty informants were included in the research. The interview structure was unique and encompassed in-depth knowledge and experience. The thirty informants were positioned at various organizational levels within each partnering firm. Informants at executive management levels provided strategic perspectives while plant personnel furnished operational perspectives. Informants that were currently involved as key contacts in the daily administration of the alliance were asked to complete an interview questionnaire. The questionnaires provided convergent evidence and served as a pretest for longitudinal research on alliances. Company documents and observed practice were also used to gather case evidence and provide convergent information.

The use of dyadic in-depth cases has enabled the research goal to be achieved. This goal was to explain how alliances are formed, evaluated and maintained to provide a framework for academic and managerial use. The

ability to evaluate alliances from a dyadic perspective provides initial theory from which hypotheses can be generated and tested. The initial theory provides a concrete foundation for future research.

MANAGERIAL CONTRIBUTIONS

This section focuses on the managerial contributions of this research. A brief statement is made concerning how the general alliance model serves as the primary contribution. The second contribution to managers is the discussion of critical guidelines that suggest necessary considerations during alliance initiation, implementation and maintenance.

It is important to note that the research focused on the grocery industry. Portions of the remaining section may not be fully applicable to other industries. This lack of generalizability is elaborated under Research Limitations.

GENERAL ALLIANCE MODEL

The general alliance model (Figure 5.1) contributes to managers by serving as a framework to aid in alliance development and maintenance. The development of such a framework was one of the main objectives for this research and provides the primary managerial contribution. The model includes a mechanism that managers can use to assess whether the alliance should be sustained, modified or terminated. The model is versatile in terms of practical guidance and explanatory power.

This versatility is especially critical if the model is to serve as an effective and useful managerial framework. This model can benefit managers within firms at various levels of alliance sophistication. A firm that is just beginning to contemplate alliance relevancy for its business can benefit from the model since it provides a blueprint to help managers guide alliance formation and maintenance. The model also illustrates facilitators and constraints at each stage of alliance development and identifies strategic and operational attributes that promote long term continuity.

A firm involved in implementing an alliance can also benefit from the model as managers can benchmark their current alliance relationships against the four studied in this dissertation to help identify potential weaknesses, areas for improvement, strengths and core competencies. The research serves as a critical benchmarking tool since the four alliances studied represent best practice in terms of collaborative arrangements.

Finally, a firm that has already implemented an alliance and is now in the Assessment-Administration feedback mechanism can also benefit from the model through benchmarking against this research. This is especially important if the alliance is deemed unsatisfactory since the model can be used by managers to better assess whether modification or termination is the most viable and beneficial option.

ALLIANCE GUIDELINES

These guidelines contribute to managers by detailing key considerations that facilitate successful alliance formation and maintenance. The guidelines are directed to managers who are interested in forming alliances or are already involved in alliance relationships. The guidelines may be specific to the research scope used in this dissertation and as such may not fully apply to all forms of collaborative arrangements. The guidelines are categorized into three areas: (1) initiating an alliance; (2) implementing an alliance; and (3) maintaining alliance vitality. Each area is discussed in the following subsections and individual summary tables are provided.

Initiating an Alliance

In all cases, the manufacturers initiated the alliance with the material suppliers. Informants discussed how the same initiation pattern occurred when they formed other alliance relationships. Based on this research, it is proposed that alliances between manufacturers and material suppliers are likely to be manufacturer-initiated. One informant described the difficulty material suppliers have trying to establish alliance relationships with customers. When material suppliers approach manufacturers about forming an alliance, it is often difficult to convince these customers to support an alliance or agree to participate. The initiation route may vary by industry, such that other industries may be influenced more by the supply base concerning alliance formation.

One potential explanation for why alliances may be initiated more frequently by the customer (buying firm) not the supplier (selling firm) is the exercise of buying power. This power exists in all exchange relationships where the selling firm will implement reasonable changes the buyer requires in order to facilitate exchange. If the buyer suggests an alliance, the seller is more likely to agree to the change than if the reverse occurred.

The alliances were driven by changes in the manufacturers' procurement strategies, so the buyers were "sold" on the idea of an alliance by their top management. If the selling firm approaches a buyer about forming an alliance, this idea does not have the same weight and pressure as when suggested by that buyer's top management. If the buyer cannot be influenced to form an alliance, it is likely the supplier will initiate alliances with its inbound material suppliers as opposed to alliances across its customer base.

When a firm begins to consider the viability of an alliance, the strategic and operational benefits and costs must be carefully considered. The alliance must be of strategic interest to both parties. The main strategic and operational benefits for both parties in the alliance included cost reduction, competitive advantage, quality improvements and supply stability. Additional benefits may include inventory reductions, technical access, overall system improvements, resources focused on proactive instead of reactive issues and better planning which can decrease transportation cost and expediting charges.

Interestingly, the cost of forming an alliance was not significantly different than operating a non-alliance relationship. None of the participating

firms made substantial investments to initially implement the alliance. Costs were incurred in travel, time and training as well as dedicating employees to the alliance relationship. However, these same costs could be incurred in a non-alliance relationship with a key customer/supplier. The ability to begin an alliance without substantial financial backing adds to the benefits of an alliance, even though investment may be required after implementation.

Costs are situationally dependent. One material supplier made a significant investment in production equipment after implementation. In other cases, the material suppliers provided value-added services at no cost to the manufacturer whereas non-alliance customers were charged for these services. In an alliance these value-added services are often expected.

In terms of information technology, the material suppliers have invested in EDI and other technologies to be flexible to customer requirements. This is one area where the manufacturers may require substantial investment to achieve full alliance benefits from integration and synergism.

The final point concerning initiating an alliance is the necessity that each partner assess its ability to make the required changes in operating practice, organizational culture and philosophies. For the manufacturer, this may include redefining the importance of piece price. Buyers will need a method for incorporating the intangible benefits of the alliance in competitive evaluations. The key is the evaluation of total market **value** not market price.

This internal assessment must also examine the ability to truly empower the key alliance contacts to manage the relationship, including internal

integration and information sharing. For example, one informant discussed how it is often easier for the supplier's key contacts to obtain information from the manufacturer's corporate headquarters about its production plans than the manufacturer's contacts at the plant. High levels of both internal and external integration would allow the alliance to be better managed overall.

Integration also must be examined if the alliance will occur with the same partner across different plants. This situation may arise if the supplier produces the associated materials in multiple facilities or if the manufacturer uses the materials in multiple facilities. A key concern in these situations is the compatibility of operating procedures and information exchange across the different plants. Further, the similarity of plant management philosophies is critical. If one plant does not support the alliance, the expected benefits will not be achieved to the fullest extent. Table 5.1 summarizes the key points found in this research concerning alliance initiation.

Table 5.1
Summary of Key Alliance Initiation Considerations

- It is likely that an alliance between a manufacturer and material supplier will be initiated by the manufacturer due to buying power.
- It is important to consider the strategic and operational benefits for each partner as well as the requisite cost.
- The cost of forming and operating an alliance may not be significantly higher than operating a non-alliance relationship.
- Partner should assess their internal ability to change operating practice, culture and philosophy, including the ability to focus on market value not piece price, empower key contacts and achieve internal integration.

Implementing an Alliance

First and foremost, the key to implementing a successful alliance is choosing the partner wisely. Bucklin and Sengupta (1992 and 1993) found that partner selection was critical for an effective alliance. From the dissertation research, four insights were revealed concerning partner selection. First, choose a current customer/supplier where familiarity is high and the relationship is already deemed positive and stable. This will allow the relationship to evolve into an alliance by building upon and transitioning a currently effective relationship.

Second, the partners should have a compatible culture and operating philosophy. A complete match is not required as long as the culture and philosophy are compatible such that core competencies and strengths are complementary. Some informants discussed how this can be assessed from working with each other over time and observing how each firm handles issues under a variety of situations. This assessment appears to be relatively easy to complete since informants made comparisons of cultures and philosophies during the interviews. One informant discussed a less obvious approach to this assessment. During a visit to the partner's manufacturing facility, a top manager disappeared to talk to assembly and material handling employees. The manager felt the employees would speak more openly and honestly to his questions in face-to-face discussions away from the tour group. This manager felt it was critical that the partner's employees were instilled with pride in the quality of their firm's products.

Third, trust and cooperation promote extensive information sharing. Both trust and cooperation have strategic and operational aspects. In the Strategic Component, partner coordination has two elements: character-based trust and cooperation. In the Operational Component, information access is derived from competence-based trust and cooperation. Both aspects of trust are evolutionary and require time to achieve. For example, consistency of behavior (an aspect of character-based trust) must be evaluated over time and decision making ability (an aspect of competence-based trust) cannot be assessed until a decision is made and consequences result. Young and Wilkinson (1989) found trust was often directly related to the length of the business relationship due to this evolutionary facet. If high levels of trust and cooperation exist initially at strategic and operational levels, it is likely that alliance implementation will be smoother and the time to realized benefits will be shorter. If these levels are not relatively high, it is likely the alliance will take longer to develop and reach full potential. Without frequent sharing of key strategic and operational information, the alliance, albeit beneficial, will not exploit the full range of opportunities for integration and improvement. Rather, time will be spent developing higher strategic and operational levels of trust and cooperation instead of promoting continuous improvements in the alliance.

Fourth, personal relationships facilitate positive alliance performance and continuous improvement. If face-to-face visits are required to enable these personal relationships to develop, it is worth the cost and time required. Personal relationships allow ownership and understanding of each other's

business to drive alliance success. The visits should include the operational contacts who handle day-to-day alliance activities. Obtaining commitment from the key contacts who will manage the alliance is critical in order to reach the mutual goals and objectives expected. Top management can not edict this commitment. Rather, they must support the alliance, but let the driving force occur at lower levels of the organization. Kanter (1994) discussed how alliances require "a dense web of interpersonal connections" that cannot be controlled or formalized by top management. Joint visits between key contacts facilitate the development of the "web of interpersonal connections" which becomes the united front and represents the alliance's culture and organization.

The alliance should start out small and simple, look for early and easy wins, and acknowledge and commend key alliance contacts. If the supplier's materials are used in multiple plants, the alliance should initiate in a test plant and extend to other plants as experience is gained. However, the other plants must be involved in the initial design of the operating practices and receive routine feedback concerning alliance success. This will encourage the other plants to accept the alliance and when it is time for them to implement the arrangement, resistance will be minimized.

Starting small includes the idea that massive investments in technology are not initially required. Manual systems and communications are often sufficient and may even provide a benefit by strengthening personal relationships. As one informant aptly stated, "You don't need a cadillac to learn how to drive." The key is to implement the alliance in its simplest form

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and then fine tune operational procedures and communication with technological sophistication once the alliance is stable. It is much easier to justify investments in information technologies, like EDI, after implementation when the alliance has produced benefits.

Early wins and recognition are critical in terms of motivating and empowering employees to manage the relationship. Initially, employees will doubt that they are really "in charge" of the alliance, so it is critical that top and middle managers act as coaches, not decision makers, and meet their verbal commitments in terms of time, training and support of the alliance. Acknowledgement of alliance success and compliments on job performance should be given to contacts on both sides of the dyad to facilitate ownership and commitment to the alliance. The united front can be fueled by acknowledgement of success. Table 5.2 summarizes the key guidelines relative to alliance implementation.

Maintaining Alliance Vitality

Long term success is facilitated by developing mutual strategic and operational goals and by formalizing feedback on performance measurement. The specific measures and goals used for evaluation and the frequency of performance measurement must be jointly determined for both partners to seriously assess overall system performance. The alliances with the highest degree of satisfaction in the relationship also had very formalized performance measurement systems. The informants' perceptions matched when asked

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what type of measures were used and what form of feedback was available. In the alliances where perceptions did not match, the partners were satisfied with the alliance but felt it had not fully achieved the expected benefits.

Table 5.2
Summary of Key Alliance Implementation Considerations

- If a current customer/supplier is chosen as the alliance partner, a high degree of familiarity should exist between the partners and performance should be positive and stable.
- Partners should have compatible cultures and operating philosophies as well as complementary core competencies and strengths.
- Partners should encourage the development of high levels of strategic and operational trust and cooperation. This is the key to extensive information sharing.
- The united front can develop between key contacts through face-to-face meetings and visits to each partners' facilities.
- The alliance should begin on a small scale to achieve early wins. Success should be recognized to motivate and empower key contacts.

Feedback can occur in a variety of forms. Annual reviews are formal assessments of the alliance. Discussion in these reviews tends to be of a more strategic nature, including developing new goals and missions for the alliance. Quarterly or monthly reviews are less formal and evaluate strategic and operational issues. Weekly/daily reviews are extremely informal, but appear invaluable to resolve and prevent dysfunctional conflict.

In terms of feedback, two other points continually surfaced during the case interviews. First, the feedback must be candid and two-sided. In other

words, both partners must be able to honestly and openly evaluate each other's performance and adherence to operating standards. It is especially critical that the material supplier provide suggestions for improvement to the manufacturer and discuss its satisfaction in terms of strategic expectations.

Second, both parties must be willing to jointly resolve problems without allowing resentment to build or to discount the benefits of the alliance. Blaming and fingerpointing, that occurred under traditional adversarial relationships, are not productive ways to achieve performance improvements. One informant described how alliance contacts avoid "sweating the details" by concentrating on problem solutions not on who caused the problem.

Looking for problem solutions is associated with another key for long term success -- continuous improvement. All four alliances illustrated how ad hoc teams were formed when needed to resolve problems or to create/implement suggestions and modifications. The teams usually consisted of key contacts from both partners.

Two aspects are critical to continuous improvement and ad hoc teams. First, the contacts must be patient and know how to maneuver the necessary changes through the political systems at both firms. Patience is required because changes take time to implement, especially if corporate approvals are required. One way to ensure the appropriate time is given to implement changes is to set realistic goals and time lines for their completion.

Second, on a related note, it is important to have direct contact between the actual "doers" who need to be empowered to make the necessary decisions

quickly, without restraints or hierarchical approval systems. If the key contacts who perform the day-to-day activities are given the appropriate freedom to manage the alliance, it is likely these contacts will develop the maneuvering skills discussed above. Further, the actual employees who will implement the improvements are more likely to accurately assess the resources and time commitments required to make the changes happen.

Ad hoc teams and direct contact between key players facilitate the development of personal relationships. As mentioned previously, these relationships often create a united front where the contacts on both sides of the alliance become extremely loyal to each other and to the alliance. They see their jobs as enabling the alliance to operate as expected in order to achieve strategic effectiveness. Often, this means the key contacts work together to fight alliance barriers that exist in each partners' corporate hierarchies.

Interestingly, this united front is extremely productive and has a true common vision of what should happen in order for the alliance to be successful. This common vision includes acknowledgement of the weaknesses in each individual firm and in the alliance. If empowered, the united front will attempt to rectify those weaknesses to improve the alliance. Informants were as frank concerning the barriers that existed in their own firms as they were about the barriers in their partner's firm. This provides evidence of how the united front develops its own culture and identity for the alliance organization, not relying on the culture and organization of the individual partner firms.

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Part of the productivity achieved by the united front develops as members work together to refine operating procedures and eliminate waste and duplicative effort. This enables the members to use resources differently. For example, in one alliance the materials management group at the manufacturer's plant spent a large portion of their time tracking and expediting orders. Essentially, they were focused on "fighting fires" to keep the production line running. Under this adversarial setting, their jobs were very hectic and frustrating, and they spent a significant amount of time in conflictive battles with suppliers. Now, the alliance supplier has weekly standing appointments at the manufacturer's receiving docks and sends advanced shipment notification (ASN) electronically prior to the dock appointments. The materials management group is able to view the ASN before the shipment arrives. Order accuracy and on-time delivery are extremely high. Based on the new system and the high delivery accuracy, the need to expedite orders is non-existent. Instead, the materials management group focuses on analyzing performance measurements to proactively prevent problems and suggest improved systems. This proactive approach and better overall system of exchange allows the employees to enjoy their work more and feel a sense of accomplishment. They are no longer spending a majority of their time working on conflicts since they now work on positive improvements.

Another key ingredient in long term alliance success is both partners' willingness to give and adapt based on the needs of their partner. Strategic and operational cooperation is a measure of this willingness. Examples were

provided in Chapter IV of one alliance that exhibited high levels of strategic and operational cooperation. This cooperation was two-sided such that sometimes it was the manufacturer that helped the material supplier and vice versa. In any relationship, business or personal, there is a tendency for individuals to feel that their side pulls the most weight or makes the largest sacrifices. In order to avoid building resentment, individuals need both partners in the alliance to exhibit flexibility and understanding in emergency or temporary situations.

Each partner also needs to feel the value-added services provided are acknowledged and appreciated. Individuals are more willing to exert time and effort and jointly work through problems when they feel appreciated and respected for their contributions (Kanter 1994). Intangible benefits from the alliance need to be recognized and included in assessments. Previous discussions have alluded to this, particularly when manufacturers evaluate the market value of the supplier's materials. However, the material supplier also must acknowledge the favorable treatment it receives from being in the alliance. This was exemplified in the alliance exhibiting high levels of trust and cooperation. An informant at the material supplier stated that while the manufacturer was often its most challenging customer, it was also the best customer because it was fair and open about expectations, willing to be responsive to the material supplier's situations and consistent in its behavior.

Finally, contracts may initially serve as a figurehead for long term commitment to the alliance, but contracts are only a piece of paper -- the partner's actions signify true long term commitment. "Informal and implicit

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social contracts" are a more accurate signal of how effectively alliances function (Larson 1992). Both parties must "walk the walk, not just talk the talk." The more productive alliances exhibited informal and implicit social contracts. This social or unwritten contract is supported by the united front and is illustrated in the comparison of questionnaire responses concerning the necessity of a written contract. This comparison was first described in Chapter IV (Table 4.3) and was reviewed at the beginning of this chapter (Level Three - Alliance Confirmation). The informants were confident during the interviews about the alliances and felt the relationships would prosper in the long run. Informant responses across the alliance partners were extremely consistent.

The concept of social contracts was illustrated in the alliance with high cooperation and trust at strategic and operational levels. This alliance operated with six key contacts which included plant personnel and customer service representatives. The small number of contacts enabled close working relationships to develop which created a high degree of dependency between the partners. The contacts were fully empowered by their firms to manage and administer the alliance. As such, the united front created in this alliance was extremely compact and powerful. The personal relationships facilitated a strong social contract, even though a formal written contract existed. Ring and Van de Ven (1994) proposed that social contracts would serve as a substitute for formal contracts when trust is high and that, if a written contract is required, it is for the benefit of the "principals-the stakeholders of their respective organizations" not for the key contacts. This alliance exhibits and

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supports this proposition. Table 5.3 highlights the key conclusions concerning how the alliances researched are positioned to maintain long term vitality.

Table 5.3
Summary of Key Alliance Maintenance Considerations

- Mutual strategic and operational performance goals should be formally measured and evaluated.
- Feedback on performance should be two-sided. Performance measurement reviews can occur on an annual, quarterly or monthly, and weekly/daily basis.
- Long term success depends on continuous improvement which is facilitated through ad hoc teams and empowered key contacts.
- The united front is extremely productive and has a true common vision and culture of the alliance.
- While a written contract may initially signal commitment to the alliance, the partners' actions signify long term commitment through the social contract, which is represented by the strength of the united front.

CONCLUDING OBSERVATIONS

The dissertation results can be summarized as six managerial observations that highlight the key conclusions on how to achieve successful alliances. These observations are categorized as follows: (1) the general alliance model; (2) the growing importance of alliance relationships; (3) formalized procedures and performance measurement; (4) the role of information technology; (5) the significance of trust; and (6) the united front.

GENERAL ALLIANCE MODEL

The general alliance model serves as a framework for managers to use when initiating, developing, forming and maintaining alliances. This framework is applicable to various alliance situations. A manager can use the model as a blueprint to begin a new alliance as well as a benchmark for improving existing alliance relationships. Further, alliances at different channel levels and within different industries can also be formed using this model as a guide.

It is highly likely that the interest in developing alliances will continue to increase at a rapid pace. An implementation gap exists such that firms want to form alliances, but do not have internal guidelines and procedures to create and maintain alliances. Chapter I reviewed the results of research that illustrate this implementation gap. This model serves to fill that gap. Firms can internalize the model to meet their individual needs and goals. The model can serve as a formal process for creating and maintaining alliances. This will help managers increase the number of collaborative arrangements used within their business channels.

THE GROWING IMPORTANCE OF ALLIANCE RELATIONSHIPS

Research, reviewed in Chapter I, concluded that alliances are a viable, beneficial alternative to traditional adversarial buyer-supplier relationships. Managers should evaluate where alliance relationships can be formed to improve their operations and develop test alliances in these critical areas or with a few key accounts. Based on experiences gained in these initial alliances,

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firms can expand alliance activity not only to new manufacturer-material supplier relationships, but also to alliances with other channel members (e.g., manufacturer-retailer alliances). This expansion can occur since alliance success is not negatively affected when numerous alliances are developed. In other words, having multiple alliance relationships at the same channel level and with various channel levels does not necessarily damage existing alliances - a firm can have more than one alliance.

The benefits of an alliance may vary, but are likely to include cost reduction, decreased inventory, increased quality and improved systems performance. Other benefits, such as access to new technology, are possible depending on the specific goals and objectives of the alliance. The costs associated with alliance formation and maintenance are not significantly higher than traditional non-collaborative arrangements. As such, alliances offer maximum benefit with minimum risk of financial investment. The largest investment occurs in human, not physical, resources such as time, training and relationship development.

It is important that managers remain patient during alliance formation and maintenance. Changing from an adversarial to cooperative philosophy takes time to overcome long-standing mindsets and procedures. Alliance structures also require some degree of trial and error -- minor strategic and operational modifications are likely. As experience is gained and new alliances are formed, the strategic and operational structures will require customization to the specific situation and partner under consideration. While some procedures can

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be formalized, such as what decisions need to be made at each stage, the answers to these decisions may differ with each new alliance. For example, one necessary agreement at the Selection/Decision Stage concerns identifying mutual goals. In one alliance the main goal may be inventory reduction while in a second alliance the main goal may be improved quality. These different goals will determine the customized strategic vision and operating structure for each alliance. In other words, the formation and maintenance stages and the strategic and operational component steps (e.g., determining joint operating standards) follow a formalized framework as illustrated by the general alliance model. The alliance structure, determined through this model, does not follow a cookie cutter approach where each alliance will look the same or have identical strategic goals, operating procedures and realized benefits.

FORMALIZED PROCEDURES AND PERFORMANCE MEASUREMENT

Once the strategic goals and joint operating standards are determined, it is critical to formalize the operating procedures and performance measures. Due to customization, formal procedures and measures may be different for each alliance arrangement.

Operating procedures should be developed jointly and designed to meet mutual, strategic goals. Initial procedures may be manual and similar to the pre-alliance operating structure, but with each partner performing non-traditional roles. As the alliance develops over time, the procedures are likely to be modified and total reengineering is possible, especially if new technology

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is included. The procedures need to be formalized in the sense that key contacts understand the operating structure and time requirements as well as their individual roles and responsibilities. Written documentation may be used as a communication medium to facilitate this understanding, but is not necessary in all situations. Written documentation is encouraged over verbal understanding when the number of contacts is too high to facilitate direct communication between all contacts (e.g., if multiple facilities are used in the alliance), social relationships are not extremely strong between the contacts and/or job turnover rates among operational contacts are high.

Performance measures should also be jointly discussed. It is important that both partners agree on how strategic goals will be tracked and evaluated as well as how adherence to operating standards will be determined. Performance measures should be two-sided to ensure both partners have a high stake in the relationship. For example, performance measures traditionally focus on the supplier's performance in terms of quality, reject rates, on-time delivery, etc... These measures ensure the manufacturer, not the material supplier, is satisfied with the relationship. Joint measures, such as systems inventory, encourage a sense of dependence and ownership while illustrating the manufacturer also expects the supplier to benefit from the alliance.

The frequency and form for sharing performance measurement results must be determined. If results are not shared, performance cannot be improved and the partners will not understand how their operations affect the alliance. It is important to communicate performance results and the adherence to

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operating procedures in formal reviews to encourage joint feedback and to drive continuous improvement. At minimum, the feedback should be shared formally on an annual basis, but quarterly or monthly reviews are also suggested. Quarterly or monthly reviews are especially important during implementation. Once the alliance is stable, annual reviews are often sufficient. Weekly/daily reviews are not considered formal, but are critical for creating conflict resolution methods. Weekly/daily reviews encourage the key contacts who administer the alliance to communicate and work together to solve problems quickly and to discover potential improvements.

THE ROLE OF INFORMATION TECHNOLOGY

Information technology does not play as significant a role in alliance practice for manufacturers and material suppliers in the grocery industry as indicated in the literature or hypothesized in Chapter II. The fundamental concern is the ability to facilitate timely and accurate communication between key contacts, regardless of the level of technology used. Telephone/fax communication may be sufficient and even beneficial at implementation since it may provide a medium for developing personal relationships.

Information technology, while not necessary for initial formation, does offer a potential opportunity after the alliance is stabilized to provide further systems refinement and improvement. As mentioned above, operating practices may be reengineered to provide radical changes in alliance structure. This reengineering is likely to coincide with the application of new information

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technology. For example, vendor managed inventory programs are facilitated by EDI transmission of daily usage information, especially if multiple plants are involved that operate with non-compatible internal information systems. EDI provides a converting mechanism so different internal formats can be automatically combined into one compatible format.

The rule of thumb concerning information technology is to add it as needed and where it can provide further benefits or accomplish new strategic goals. Information technology is not needed initially if timely and accurate communication is possible with manual or low technology methods. Lack of sophisticated technology should not discourage alliance formation.

THE SIGNIFICANCE OF TRUST

Trust is alluded to, but not well understood, in alliance literature and actual practice. The research results supported trust as a multidimensional measure delineated into character and competence-based elements. These elements show strategic and operational facets of trust. Higher levels of trust lead to more extensive information sharing and it is important that managers understand and encourage the development of both elements of trust.

Trust is examined in terms of qualitative assessments of the partner's qualities or characteristics inherent in its philosophy or organizational culture (character-based) as well as actual behavior and operating performance (competence-based). As such, it is important for managers to ensure their attributes and actions mirror commitments made verbally and in writing. An

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evaluation is made by both partners of the consistency of qualities, intentions, motives, credibility and behavior with respect to promises and statements of intent over the life of the alliance relationship.

Both elements of trust evolve over time. They must be tested, proven and earned. For example, competence-based trust evolves as the partners evaluate each other's behavior to assess the skills and knowledge levels of individuals within each firm. Through consistent, proven and successful attributes and actions, character and competence-based trust develop.

A crisis or problem may increase trust by providing an opportunity for the partners to exhibit their true intentions, beliefs or skills. For example, suppose a material supplier discovers a quality problem that may have included materials en route to the manufacturer. The supplier alerts the manufacturer of the potential problem and provides an action plan to solve the problem. The action plan is successful and the manufacturer does not experience production downtime. It is likely the manufacturer's perception of the level of character and competence-based trust for the supplier will increase as a result of this immaculate recovery. Character-based trust will increase since the supplier was upfront and honest about the problem, while competence-based trust will increase due to the skills and expertise for solving problems quickly and without great penalty. Tylenol's effective product recall and reinforcement of consumer confidence illustrates the idea that crisis can increase trust.

The example is not intended to suggest alliance partners knowingly create a crisis in order to increase the levels of trust. Rather, it is used to show

that trust evolves and is often gained (or lost) through unexpected and unclear situations. Trust must be earned not only in good, stable times in the relationship, but also when uncertainty is high, performance is not meeting expectations and/or emergencies arise. In fact, the latter situations may provide breakthrough, watershed events that promote significant increases (or decreases) in character and competence-based trust.

THE UNITED FRONT

Both elements of trust are best illustrated by the development and strength of the united front. A united front occurs when key contacts become extremely loyal to each other and the alliance such that the organizational boundaries, that once separated the two firms, are invisible or transparent. The united front represents the social contract for the alliance and serves as a better indicator of long term commitment than formal contractual documents.

The united front is extremely productive as its members become committed to continually improving the alliance and administering the activities required to accomplish strategic goals and objectives. High levels of strategic and operational cooperation between the members also increases productivity. This level of commitment and "web" of interpersonal relationships cannot be controlled by outside members, such as top management. Rather, top management must support the development of a united front.

Support that encourages a united front can be provided in numerous ways. Joint face-to-face meetings and frequent communication facilitates the

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development of personal relationships which initiate the united front. Direct contact between key operational personnel as opposed to indirect contact through corporate hierarchies will enhance the united front. It is critical that the direct contacts are empowered to administer the alliance without continually seeking corporate approvals. If extensive hierarchial approval systems are required, the united front will be stifled. Members will share frustration and disappointment, not creative ideas for improvement. Also, the members will not feel directly responsible for alliance success.

Finally, top managers should acknowledge success, positive performance results and benefits. Acknowledgement should be directed to all members of the united front. For example, top management should recognize the accomplishments made by both partners' employees. This motivates the team of members not just one side of the alliance and shows support for the alliance culture and organization.

RESEARCH LIMITATIONS

The main limitation of this research is generalizability of the findings. Generalizability is limited by sample selection, sample size and research scope. The participating firms were not randomly selected. Rather, selection was based on expert opinion that the manufacturers were perceived as leaders in collaborative arrangements. The material suppliers were chosen by the manufacturers as representing their best alliance relationship. Given this sample selection, the companies examined for this dissertation were expected

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to be the best of the best in terms of logistical alliance sophistication. Therefore, these companies may not be representative of firms who are involved in logistical alliances.

The research focused on three dyadic relationships that operated four logistical alliances. The small sample size provides no assurance that the sample is representative of firms within the grocery industry. This is especially true since sample selection was not random.

Finally, the research scope focused on logistical alliances between manufacturers and material suppliers in the grocery industry. Results and conclusions may not be applicable to other alliance relationships at different channel levels or in different industries. The facilitators and constraints at each stage may be specific to manufacturer-supplier relationships. Further, the environmental factors that encouraged interest in collaborative arrangements are likely to be distinct for alliances at differing channel levels. Alliance goals could also vary across channels and industries.

However, generalizability was strengthened in this dissertation by using three dyadic case sets across two channel levels and including multiple informants from each alliance partner. The wide range of characteristics of the participants promotes generalization across a wider population with the same or sufficiently similar conditions.

A second limitation is referred to by Churchill (1991) as maturation and is defined as changes in people's attitudes that occur not because of particular events of the research under study (e.g., alliance performance), but due to the

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passage of time. Over time, participants get older and forget events and attitudes about the research topic (e.g., alliance performance). The informants incorrectly attribute past events and feelings to current actions and attitudes. In other words, informants' ability to accurately recall all the events and attitudes present as the alliance was formed is tempered by their current attitudes and the passage of time. Thus, informants may bias their assessment and description of past events based on their current feelings and attitudes.

This limitation is reduced by using multiple informants on a dyadic basis as well as comparing interview information to available documentation to provide convergent evidence. Much of the available documentation provided in the interviews detailed the alliance as it progressed and included dates and performance measures. This documentation increased the accuracy of the case reports by enabling the informants' perspectives to be confirmed by historical records. Multiple informants and alternative sources of evidence increases the ability to achieve convergent lines of inquiry and enhances reporting accuracy of informant perceptions.

Finally, the five stages used in the general alliance model may be problematic as two stages (Search and Selection/Decision) were relatively minor when alliance partners were extremely familiar with each other and the alliance partner was easily distinguished from competitors. While these alliances did not proceed through formal or lengthy Search or Selection/Decision Stages, they did show signs of both stages. However, it may be difficult to relate these signs to quantifiable definitions.

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DIRECTIONS FOR FUTURE RESEARCH

Longitudinal case research that follows an alliance through from conceptualization to continuity would help define the four levels examined in this chapter and further establish and test constructs in the general alliance model. As the alliance develops, it would be valuable to document alliance progression as a participant-observer, especially the potentially problematic Search and Selection/Decision Stages.³ This form of research would reduce the threat of maturity and the inability of informants to accurately recall specific events and perceptions. Further, the insight provided over in-depth longitudinal research would solidify many of the measures not clearly defined through this research and provide a means to replicate the general alliance model.

The impact and importance of personal relationships in alliance formation and maintenance is undeniable. Further study is needed on how these relationships develop, are managed and adapt as the alliance proceeds through sustainment, modification or termination. Research focused specifically on personal relationships, especially the concept of the united front, would greatly benefit understanding of alliances and refine the managerial guidelines for creating and maintaining successful alliances. Given these personal relationships, new measures for concepts such as power, use of power and compliance may need to be created. The measures currently used in channel literature were developed to describe and research traditional adversarial

³ An excellent example of marketing research conducted using participant observation is John P. Workman, Jr. (1993), "Marketing's Limited Role in New Product Development in One Computer Systems Firm," *Journal of Marketing Research*, XXX (November), 405-421.

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relationships. Adversarial-based measures may not be adequate when studying alliance relationships, especially concerning research involving the concept of a united front. Measures of trust and cooperation also need to be further developed in order to examine multidimensional characteristics on a strategic and operational level.

Channel literature has traditionally measured dysfunctional conflict in researching exchange relationships. While functional conflict has been defined, it has not been used as widely as dysfunctional measures. Yet, this research showed dysfunctional conflict was relatively non-existent in successful alliances. The development of strong personal relationships which creates a united front or social contract provides compelling support for the use of functional conflict as a significantly more relevant measure.

It is too early to predict what additional forms of information technology will be utilized. Two manufacturers who currently use telephone/fax for inbound communication expected that EDI will be implemented in the future. Tracking the use of technology in these alliances would provide insight into alliance modification as well as serve as a guideline for other manufacturers attempting to implement EDI into their inbound operations.

Finally, quantitative analysis is critical to future research in logistical alliances between manufacturers and material suppliers. The creation of a research initiative and dyadic sample to statistically test the model is extremely important for advancing alliance research. While this research focused on

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theory building, quantitative research would enable theory testing and aid in prediction of the general alliance model.

An initial pretest of the model's measures was conducted via the interview questionnaires. However, the low respondent base prohibits statistical evaluation. Creation of more extensive measures and a quantitative research initiative to statistically test the model and its measures is an important next step.

One potential quantitative study would be to replicate the Bucklin and Sengupta (1992 and 1993) research and methodology using logistical alliances between manufacturers and material suppliers as opposed to the co-marketing alliances they examined. In this replication, the fifth dimension of strategic effectiveness should be added as well as the three dimensions of adherence to operating standards. Also, the research should be conducted using a dyadic focus to lend further insight.

SUMMARY

This dissertation concludes with appendices, references and a general bibliography. The format for these items is as follows:

Appendix A - Interview Guide and Questionnaire	Page 243
Appendix B - Case Study Protocol	Page 255
List of References	Page 262
General References	Page 272

APPENDICES

APPENDIX A

INTERVIEW GUIDE AND QUESTIONNAIRE

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APPENDIX A

INTERVIEW GUIDE AND QUESTIONNAIRE

Firm Interviewed: _____

Date: _____

Location of Interview: _____

Informant Name: _____

Informant Title: _____

The role of this interview guide is to facilitate discussion. The questions are designed as a guide and not as a formal sequential procedure. Some questions are more relevant to certain partner/particular informant. The goal is to understand the alliance in its entirety.

Opening Question:

To provide background on your organization structure, please describe your role and job responsibilities, including the length of time that you have been with the present company, your various responsibilities and your current position.

Process Component:

Describe your firm's business relationship with the focal alliance partner. How long has this business relationship existed and how was it initiated? Were you involved with the partner originally?

When and how did the idea of forming an alliance originate? Who was the initiating party? Who were the key contacts involved? What prompted your firm's interest in an alliance? How did your firm determine an alliance was needed? Were criteria developed to determine if an alliance was a viable alternative?

How was the partner selected? What process did the initiating party use to choose the focal partner? Were criteria developed to aid in this decision process? Were alternative partners considered? Did any activities facilitate or constrain the initial interest in alliance formation? The decision to form an alliance? The partner selection process?

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Describe the agreement process that your firm and the partner engaged in to form the alliance? Was the process standardized or tailored to the specific partner? What activities facilitated or constrained the agreement? Was a formal contract created and, if so, what was the length of the contract and its content? Who is involved in the contractual process? Is a formal contract important and, if so, why?

Did each partner form expectations about the alliance before it was implemented? Were the expectations discussed openly? Were formal goals developed, and, if so, how were the goals determined? Please describe the initial expectations and goals.

Describe how the alliance was implemented. What changes occurred in your firm's operating practices and in the partner firm's operating practices? What activities facilitated or constrained implementation? What investments were required in physical or human resources to implement the alliance? Who was involved in implementation?

Describe the alliance operating structure. How is business conducted in the alliance? What are each partners' roles and responsibilities and who are the contacts involved? Describe the exchange process (formal and informal aspects; frequency and form).

Describe how the alliance is maintained. What investments were required in physical and/or human resources to maintain the alliance? Do the partners meet to review alliance performance? Please describe. Has the alliance met its original goals? Has the alliance been modified strategically or operationally since implementation? If so, please describe.

In your opinion, is the alliance successful? What factors have contributed to this success (or failure)? What problems exist in the alliance that hinder or limit success? How important is the alliance relationship to your firm? How important is the relationship to the partner firm? How easily could each firm replace the alliance partner?

Strategic Component:

Describe how your expectations for the alliance evolved as the relationship was formed and developed. How did you initially feel about an alliance? Has the alliance met your firm's expectations and your personal expectations? Please describe.

What did you initially perceive the costs and benefits of the alliance would be? What were the actual costs and benefits?

Do you measure alliance effectiveness? If so, how? What elements are critical to the measurement process?

How is your firm's strategic vision for the alliance communicated to the partner firm and throughout your organization? How is the partner's strategic vision for the alliance communicated to your firm and within its own firm? Is the communication sufficient? Please describe.

Probe for responses concerning expectations and actual realization in these areas:

- Power Imbalance (e.g., Are the benefits balanced? Which party, if any, has the greatest power/leverage and has it changed over time?)
- Managerial Imbalance (e.g., Does each partner contribute equally in terms of the number of key contacts?)
- Conflict (e.g., How is conflict managed and resolved? What are the formal and informal resolution mechanism?)
- Compatibility (e.g., Is the alliance partner's philosophy and organization culture compatible with your firm's?)
- Net Benefit (e.g., Have the alliance benefits been greater than the cost and effort? What economic and strategic benefits have been achieved?)
- Character-Based Trust (e.g., Do you trust the partner's motives?)
- Cooperation (e.g., How do you work together to accomplish goals?)

Operational Component:

Describe how the operational procedures were determined. What did you initially expect in terms of the operating structure? Has the alliance met these expectations? Please describe.

How is the alliance managed? Who is involved at both partners' firms at strategic and operational levels?

Describe how performance is measured. Describe the measures used by each partner. How were the measures developed? Are these measures shared -- provide frequency and communication format? How is performance related to piece price?

What information is shared? How frequently does sharing occur? Who has access to the information and how is it utilized? What role does technology play in the transmission of information? Is it easy to get the necessary information from the partner firm? Is the information timely and accurate? What information is necessary, but not shared? Why?

Probe for responses concerning expectations and actual realization in these areas:

- Defined Procedures (e.g., Are operating procedures detailed and in written format?)
- Continuous Performance Measurement (e.g., How is performance tracked and shared? How could it be improved?)
- Competence-Based Trust (e.g., Do you trust the partner's expertise on important decisions?)
- Cooperation (e.g., How do you work together to accomplish operational tasks?)
- Responsiveness (e.g., Are you responsive to the partner's special requests?)
- Technology Adoption (e.g., How is information transmitted?)

Closing Questions:

Please describe the similarities and differences between this alliance and typical relationships with a manufacturer/material supplier. What differentiates this alliance from others and from non-alliance relationships? How could this alliance be improved? Where do you see the alliance heading in the future? Would you recommend your firm continue to develop alliances? Would you recommend other firms develop alliances?

Please discuss any activities or factors that were critical to the alliance, but have not been covered in the interview.

I will conduct interviews with the following contacts at your firm and the partner's firm. Are there any other contacts that you recommend I interview to fully understand the alliance process?

**MICHIGAN STATE UNIVERSITY
ALLIANCE RESEARCH
BACKGROUND QUESTIONNAIRE**

Date: _____

Company Name: _____

Please answer the following questions about your firm's policies and procedures in general or as they pertain to the key alliance relationship discussed in our personal interview. The questions will indicate whether a general or specific focus is appropriate.

Upon Completion, Please Fax to:

Judy Schmitz
Doctoral Candidate
The Eli Broad Graduate School of Management
Department of Marketing
370 North Business Complex
East Lansing, MI 48824

FAX: (517) 336-1112
(517) 432-1112 after July 21, 1994

Please indicate whether you disagree or agree with the following statements.

1. In general, I believe my firm's involvement in logistics alliances will increase in the future.

Strongly Disagree 1 2 3 4 5 Strongly Agree

2. In general, how accurate are the following assumptions concerning most alliances with packaging/material suppliers:

- a. A firm can be effectively involved in only a limited number of logistics alliances.

Strongly Disagree 1 2 3 4 5 Strongly Agree

- b. Logistics alliances are thinly disguised ways for the powerful partner to maintain power/control.

Strongly Disagree 1 2 3 4 5 Strongly Agree

- c. Logistics alliances are thinly disguised ways for the powerful partner to shift inventory responsibility.

Strongly Disagree 1 2 3 4 5 Strongly Agree

- d. An effective logistics alliance must be supported by a written contract or agreement.

Strongly Disagree 1 2 3 4 5 Strongly Agree

- e. Logistics alliances are more lip service than reality.

Strongly Disagree 1 2 3 4 5 Strongly Agree

- f. Logistics alliances are typically dominated by the channel member who has the greatest power.

Strongly Disagree 1 2 3 4 5 Strongly Agree

- g. A key to successful logistics alliances is information sharing.

Strongly Disagree 1 2 3 4 5 Strongly Agree

- h. Joint establishment of performance measures is critical to ultimate alliance success.

Strongly Disagree 1 2 3 4 5 Strongly Agree

3. Ability to effectively share operational information was critical in the selection of this key alliance partner.

Strongly Disagree 1 2 3 4 5 Strongly Agree

4. My firm has increased the amount of operational information shared with this key alliance partner since the alliance was initiated.

Strongly Disagree 1 2 3 4 5 Strongly Agree

5. The key alliance partner has increased the amount of operational information shared with my firm since the alliance was initiated.

Strongly Disagree 1 2 3 4 5 Strongly Agree

6. Ability to effectively share strategic information was critical in the selection of this key alliance partner.

Strongly Disagree 1 2 3 4 5 Strongly Agree

7. My firm has increased the amount of strategic information shared with this key alliance partner since the alliance was initiated.

Strongly Disagree 1 2 3 4 5 Strongly Agree

8. The key alliance partner has increased the amount of strategic information shared with my firm since the alliance was initiated.

Strongly Disagree 1 2 3 4 5 Strongly Agree

9. In general, I believe channel power has shifted from manufacturers to retailers over the past five years.

Strongly Disagree 1 2 3 4 5 Strongly Agree

10. In the market the alliance partner serves, uncertainties in production or distribution of supplies are a real problem.

Strongly Disagree 1 2 3 4 5 Strongly Agree

11. The market in which I buy supplies from the alliance partner is complex.

Strongly Disagree 1 2 3 4 5 Strongly Agree

12. If this alliance relationship was terminated, my firm would suffer a significant loss.

Strongly Disagree 1 2 3 4 5 Strongly Agree

13. I could easily replace my present alliance partner with another.

Strongly Disagree 1 2 3 4 5 Strongly Agree

14. My firm has made significant investments in assets (e.g., tooling, equipment, information technology) dedicated to the relationship with this alliance partner.

Strongly Disagree 1 2 3 4 5 Strongly Agree

15. The alliance partner has made significant investments in assets (e.g., tooling, equipment, information technology) dedicated to the relationship with my firm.

Strongly Disagree 1 2 3 4 5 Strongly Agree

16. My firm has some unusual norms and expectations of the technology used in this relationship, which required adaptation by the alliance partner's organization.

Strongly Disagree 1 2 3 4 5 Strongly Agree

17. The alliance partner has some unusual norms and expectations of the technology used in this relationship, which required adaptation by my organization.

Strongly Disagree 1 2 3 4 5 Strongly Agree

18. Training and qualifying this alliance partner has involved substantial commitments of my firm's time and money.

Strongly Disagree 1 2 3 4 5 Strongly Agree

19. Training and qualifying my firm has involved substantial commitments of the alliance partner's time and money.

Strongly Disagree 1 2 3 4 5 Strongly Agree

20. My operations have been tailored to the constraints established by the alliance partner's operations.

Strongly Disagree 1 2 3 4 5 Strongly Agree

21. The alliance partner's operations have been tailored to the constraints established by my firm's operations.

Strongly Disagree 1 2 3 4 5 Strongly Agree

22. Either my firm or the alliance partner could terminate the agreement without penalty by giving notice to the other partner.

Strongly Disagree 1 2 3 4 5 Strongly Agree

23. The alliance partner could sign similar agreements with our competitors.

Strongly Disagree 1 2 3 4 5 Strongly Agree

24. My firm could sign similar agreements with the partner firm's competitors.

Strongly Disagree 1 2 3 4 5 Strongly Agree

25. Responsibility for the day-to-day operation of my side of the alliance is at the proper level in the management hierarchy.

Strongly Disagree 1 2 3 4 5 Strongly Agree

26. In my firm, insufficient personnel have been assigned to the task of managing this alliance.

Strongly Disagree 1 2 3 4 5 Strongly Agree

27. Responsibility for the day-to-day operation of the partner side of the alliance is at the proper level in the management hierarchy.

Strongly Disagree 1 2 3 4 5 Strongly Agree

28. In the partner firm, insufficient personnel have been assigned to the task of managing this alliance.

Strongly Disagree 1 2 3 4 5 Strongly Agree

29. My firm has influenced the partner firm to change its policies and practices with respect to logistics/distribution.

Strongly Disagree 1 2 3 4 5 Strongly Agree

30. The partner firm has influenced my firm to change its policies and practices with respect to logistics/distribution.

Strongly Disagree 1 2 3 4 5 Strongly Agree

31. During the last three months, there were significant disagreements or disputes between my firm and the partner firm.

Strongly Disagree 1 2 3 4 5 Strongly Agree

32. My firm's goals and objectives are consistent with those of the partner firm.

Strongly Disagree 1 2 3 4 5 Strongly Agree

33. Do you and the personnel from the partner firm agree on

- a. The way work is done or service is provided by my firm?

Strongly Disagree 1 2 3 4 5 Strongly Agree

- b. The way work is done or service is provided by the partner firm?

Strongly Disagree	1	2	3	4	5	Strongly Agree
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- c. The interpretation of the terms of the alliance agreement?

Strongly Disagree 1 2 3 4 5 Strongly Agree

34. Executives in my firm have a management system different from that of executives in the partner firm.

Strongly Disagree	1	2	3	4	5	Strongly Agree
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35. Based upon your past and present experience, how would you characterize the level of trust in the alliance.

Little Trust with the Alliance partner

1 2 3 4 5

High Trust with the Alliance partner

36. Prior to this partnership

- a. My firm had a continuous business relationship with the partner firm for several years.

Strongly Disagree	1	2	3	4	5	Strongly Agree
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- b. My firm did very little business with the partner firm

Strongly Disagree 1 2 3 4 5 Strongly Agree

- c. The history of relations between my firm and the partner firm may be characterized as stable and enduring.

Strongly Disagree	1	2	3	4	5	Strongly Agree
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37. Based on your past and present experience, to what extent do you believe the following:

- a. The partner firm has carried out its responsibilities and commitments with respect to the alliance

Strongly Disagree 1 2 3 4 5 Strongly Agree

- b. My firm has carried out its responsibilities and commitments with respect to the alliance

Strongly Disagree	1	2	3	4	5	Strongly Agree
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- c. The alliance has been productive

Strongly Disagree 1 2 3 4 5 Strongly Agree

- d. The time and effort spent in developing and maintaining the alliance has been worthwhile

Strongly Disagree	1	2	3	4	5	Strongly Agree
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- e. The alliance has been satisfactory

Strongly Disagree	1	2	3	4	5	Strongly Agree
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38. In your opinion, what is the relative importance of each of the following motivations for establishing this key alliance? Please rate using the following scale:

	Not Important	1	2	3	4	5	Extremely Important
a. Competitive advantage							
b. Exploiting core competency							
c. Increased customer satisfaction							
d. Improved quality							
e. Inventory reduction							
f. Leadtime improvement							
g. Leveraging capital							
h. Domestic market access							
i. Global market access							
j. Supply stability							
k. Demand stability							
l. Cost reduction							
m. Access to technology							
n. Capacity constraints							
o. Risk avoidance/sharing							
p. Improved profitability							
q. The other party initiated it							

39. In your opinion, what has actually been achieved through this key alliance? Please rate using the following scale:

My firm has not achieved this objective	1	2	3	4	5	My firm has <u>definitely</u> achieved this objective
a. Competitive advantage						
b. Exploiting core competency						
c. Increased customer satisfaction						
d. Improved quality						
e. Inventory reduction						
f. Leadtime improvement						
g. Leveraging capital						
h. Domestic market access						
i. Global market access						
j. Supply stability						
k. Demand stability						
l. Cost reduction						
m. Access to technology						
n. Capacity constraints						
o. Risk avoidance/sharing						
p. Improved profitability						

40. In general, to what degree do each of the following lead to the success of logistics alliances with packaging/material suppliers? Please rate using the following scale:

Not Important	1	2	3	4	5	Extremely Important
a. Senior management support						
b. Trust						
c. Partner compatibility						
d. Clear goals						
e. Consistent goals						
f. Equivalent human resource commitment						
g. Equivalent physical resource commitment						
h. Ability to meet performance expectations						
i. Accomplishment of original objectives						
j. Lack of individual financial constraints						
k. Sharing of critical information						
l. Compatible information systems						
m. Willingness to be flexible						
n. Leadership on our part						
o. Written agreement or contract						

QUESTIONNAIRE REFERENCES

<u>Question Number</u>	<u>Reference</u>
2	Michigan State University Baseline Survey conducted in May 1993 and described in Chapter I.
9	Michigan State University Baseline Survey conducted in May 1993 and described in Chapter I.
10,11	Uncertainty Elements -- Noordewier, John and Nevin (1990)
12,13	Dependency -- Dant and Schul (1992)
14-21	Specific Assets -- Heide and John (1992)
22	Exit Barriers -- Bucklin and Sengupta (1992 and 1993)
23,24	Exclusivity -- Bucklin and Sengupta (1992 and 1993)
25-28	Managerial Imbalance -- Bucklin and Sengupta (1992 and 1993)
29-30	Power -- Emerson (1962); Etgar (1976); Gaski (1984); and Bucklin and Sengupta (1992 and 1993)
31,33	Conflict -- Ruekert and Walker (1987); Van de Ven and Ferry (1980); and Bucklin and Sengupta (1992 and 1993)

<u>Question Number</u>	<u>Reference</u>
32,34	Organizational Compatibility -- Ruekert and Walker (1987); Van de Ven and Ferry (1980); and Bucklin and Sengupta (1992 and 1993)
35	Trust -- Anderson and Narus (1990)
36	Prior History of Business -- Ruekert and Walker (1987); Van de Ven and Ferry (1980); and Bucklin and Sengupta (1992 and 1993)
37	Perceived Effectiveness -- Ruekert and Walker (1987); Van de Ven and Ferry (1980); and Bucklin and Sengupta (1992 and 1993)

Note: Full Citation Found in List of References Section

APPENDIX B

CASE STUDY PROTOCOL

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APPENDIX B

CASE STUDY PROTOCOL

I. Overview of Study, including Objectives and Issues

A. Research Purpose

The purpose of this research is to investigate logistical alliances between manufacturers and material suppliers to determine the stages of alliance formation and maintenance. Characteristics that facilitate and constrain alliance success during the stages should be identified and corollary strategic and operational evaluations will be examined for their effect on alliance assessment.

The goal of this research is to develop a general alliance model for academic and managerial use. This general model provides managerial guidelines for logistical alliance formation and maintenance.

B. Research Objectives

The specific objectives of the research were as follows:

1. To identify the stages of alliance formation and maintenance between manufacturers and material suppliers;
2. To identify characteristics that facilitate and constrain alliance success during formation and maintenance;
3. To identify strategic expectations and effectiveness that accompany alliance formation and maintenance and are used in alliance assessment;
4. To identify operational criteria and standards that accompany alliance formation and maintenance and are used in alliance assessment;
5. To develop a general alliance model;

6. To evaluate and refine the general alliance model with dyadic case studies; and
7. To generate topic areas for further research in alliances.

C. Sample Letter to Participants to Provide Case Study Background

I am a doctoral candidate at Michigan State University and am contacting you concerning my dissertation which is focusing on alliance relationships. To provide a little background on the dissertation, I have enclosed a short write-up concerning the research. Basically, I have chosen to interview three manufacturers in the grocery industry and have asked each manufacturer to identify a material supplier that they feel they have the best alliance relationship with. Your company has been chosen to participate and your name was given as a potential contact.

These interviews will take approximately 2-3 hours each. I am hoping that your company will agree to participate and that I can schedule a one-day visit to see your operations. I would like to interview you and any other personnel at your company that you feel would be appropriate. The interviews will concentrate on how the alliance relationship was formed as well as how the relationship currently operates.

I will call you next week to discuss the dissertation research and answer any questions you may have. I understand you may need internal approval prior to agreeing to participate. Let me assure you that all information provided in the interview will be kept strictly confidential and I am willing to sign any statements to that effect. Company specific material will not be used without approval from the appropriate channels. Let me know if I can be of any assistance in the internal approval process with regard to providing more in-depth material or answering any questions concerning the research.

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*D. Written Description of the Research for Participants***RESEARCH ON LOGISTICS ALLIANCES**
Michigan State University Doctoral Research

As firms experience increased global competition, industry consolidation, alternative distribution and retail formats, shrinking margins and heightened consumer demands, leading firms throughout industry are rapidly developing strategies to improve efficiency and effectiveness and to provide greater consumer value. The traditional mindset which centered on the firm and its internal functional relationships has been replaced by a new vision which focuses on channel processes and network relationships. A primary facilitator of this shift has been the development of highly sophisticated and formalized business relationships commonly referred to as logistics alliances.

Few doubt that logistics alliances have become an important means for conducting business in today's rapidly changing environment. However, experience shows that such relationships are difficult to establish and maintain. While numerous alliance examples have been discussed in the business press, comprehensive guidelines for building alliances have not been developed.

KNOWLEDGE GAPS

Most industry and academic publications focus on broad attributes of an ideal alliance. The focus basically suggests generalized goals such as "win-win" solutions, "information sharing" and "mutual trust." While such general goals appeal to common sense, they lack detailed description concerning how alliances are formed and evaluated regarding their performance and effectiveness. Further, these generalizations have not been examined in terms of long-term alliance success. For companies to utilize alliances to their full potential and gain maximum benefits for all partners, research focusing on this formation process is critical.

RESEARCH STRUCTURE

The research structure utilizes in-depth interviews with the three grocery manufacturers and their best alliance partners. Interviews will be conducted with logistics managers from multiple organizational levels at each manufacturer and their respective alliance partners. The interviews will consist of a series of structured and open-ended questions discussing perceptions of past, current and future alliance practice.

Manufacturers will be asked to identify a successful alliance with one of their material suppliers. Interviews with both the alliance partners will focus on: (1) the alliance formation process, including initial conceptualization, implementation, performance evaluation and long-term maintenance; (2) day-to-day activities required to manage the alliance; (3) the involvement with different departments including marketing, distribution, transportation, warehousing, purchasing, production, information systems and/or accounting; and (4) other internal/external activities that helped or hindered the alliance formation process. Discussion with other managers or additional information, not specifically mentioned above, which addresses alliance issues should be included in the interview process. The expertise and cooperation of the manufacturers and material suppliers will be critical in guiding the interviews.

II. Field Guidelines

A. Access to Interview Candidates

Key organizations and interview candidates will be approached through relationships at Michigan State University. The senior level executive at each manufacturer will be contacted and asked to participate. If agreement is confirmed, the executives will be asked to determine the focal alliance partner and provide a key contact at that firm. The executive will also be asked to arrange meetings with key contacts in his/her organization who operate and administer the alliance. A visit to the manufacturer's main and auxiliary locations will be arranged and interviews with the key contacts will be scheduled.

The partner firm will be approached and asked to participate. The manufacturer will be asked to help confirm the focal material supplier's participation. Key informants will be identified at the material supplier. A visit to the material supplier's main and auxiliary locations will be arranged and interviews with the key contacts will be scheduled.

B. Preparing for the Visits/Interviews

The following resources will be required for the scheduled visit: (1) the secondary data compiled on the focal company; (2) the interview guide; (3) a sufficient number of copies of the interview questionnaires; (4) paper; and (5) itinerary for the trip.

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III.

The following items should be reviewed before each interview: (1) the secondary data compiled on the focal company; (2) the interview protocol; and (3) the interview guide.

C. Statement to the Interviewee

The purpose of this interview is to focus on the alliance between your firm and the focal partner. Specifically, the interview will facilitate discussion of how this alliance was initiated and implemented as well as how it is currently administered and maintained. In order to provide an in-depth understanding of how your company operates in this alliance, the interview will focus on three broad areas: (1) alliance development; (2) strategic expectations; and (3) operational performance.

Before the interview begins, the informant should be assured that any responses will be kept completely confidential not only from informants at the partner firm, but also from informants within the same firm.

D. Questionnaire

The questionnaire will be provided to informants that are (1) currently involved in strategic and/or operational aspects of the alliance; and (2) considered by the interviewer to be a key contact in the alliance. The following statement explains the interview questionnaire.

The purpose of the five page questionnaire is to examine specific issues in more detail. The average completion time for the questionnaire is ten to fifteen minutes. This questionnaire can be returned via fax or regular mail. Please take some time over the next week to complete and return the questionnaire. Your response is very important to the research.

III. Case Questions

A. Interview Guide (see Appendix A)

B. Questionnaire (see Appendix A)

IV. Format for Completing the Case Study Reports

Maintain/Develop a file on each individual participating company. The file should include the informants' names, addresses and titles; detailed information on the time and location of each interview; completed questionnaires; documentation received during or after the interview; correspondence; and secondary data.

Complete a case report on each individual alliance. The report should begin with descriptive information such as company backgrounds and demographics, informant titles and organization positions, and questionnaire status. Next, explanatory information should be documented that details the similarities and differences in perceptions within each firm as well as across the alliance. This information should be organized by the process stages and the three components. Environmental factors that explain anomalies, different opinions and evidence that does not converge across multiple sources should also be noted.

Develop a story of each alliance. This story should be sequential, starting with the formation of a business relationship and progressing through alliance conceptualization and implementation and reviewing the current alliance structure. Specific informant information should be noted and cited.

Complete a cross-case analysis beginning with descriptive information such as company backgrounds and demographics, informant titles and organization positions, and questionnaire status. Next, explanatory information should be documented that details the similarities and differences in perceptions across the alliances. This information should be organized by the process stages and the three components. Environmental factors that explain anomalies, different opinions and evidence that does not converge across multiple sources should also be noted.

Proceed with the case analysis in the coding stages identified by Strauss and Corbin (1990) to develop grounded theory. The coding method involves three steps: (1) open coding; (2) axial coding; and (3) selective coding. Open coding involves breaking the data down to facilitate examination and conceptualization. Categorize the data based on comparisons of similarities and differences as noted in the case study reports developed above. Give each category a labels that describes these similarities.

In axial coding the data is combined in "new ways" by making logical connections between categories. These connections are formed based on the causal relations, context, external conditions and interaction between categories (Strauss and Corbin 1990). Categories should be given more detail in terms of their unique properties and characteristics.

The final step, selective coding, creates a core category that explains the main phenomenon of the case. This core category is developed by integrating the other categories into a higher level of abstraction. At this point, the data is at a "broad conceptual level" and each category has "property and dimensional levels" (Strauss and Corbin 1990). This provides a comparison of data to theory for grounding. This coding protocol can be envisioned as a pyramid where the first step (open coding) builds the foundation for the structure by combining the case evidence. The middle section (axial coding) organizes the evidence into a higher level of abstraction and understanding. Finally, the pinnacle is created (selective coding) by integrating the categories in a new, unique manner to explain the essence of the research findings.

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