

**Purchasing Transportation Services in Rural Communities:
Alliance Formation Motives and Achievements**

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ABSTRACT

A large number of industrial manufacturers are forming alliances with partners throughout the supply chain with the focus on improving its competitive position. These potential improvements may vary by the type of alliance being formed. In spite of this, little is known regarding what motivates a manufacturer to form an alliance at various channel positions (e.g., supplier versus customer alliances) and what the resultant performance outcomes are from these different types of alliances. This paper examines the importance manufacturers place on various motives based on the channel position of the alliance. Further, the paper compares the objectives actually achieved across alliances with manufacturers and partners at different channel levels.

INTRODUCTION

Over the last decade there has been considerable attention placed on the changes occurring in the business environment. Of particular interest has been the change in the nature of supply chain relationships. There has been a marked shift from adversarial to more cooperative supply chain relationships. These new forms of relationships have been referred to as partnerships (Johnston and Lawrence 1988; Anderson and Narus 1990; Sonnenburg 1992; Hendrick and Ellram 1993), networks (Miles and Snow 1986; Thorelli 1986), and strategic alliances (Ohmae 1989; Heide and John 1990; Day 1995; Varadarajan and Cunningham 1995).

The specific reason for the increased industry attention placed on cooperative relationships is difficult to pinpoint. As discussed by Day (1995), "there are as many possible benefits to the formation of an alliance as there are motives for entering into these cooperative agreements." Heide and Stump (1995) address the issue of benefits and motives by stating that alliances are based on the "assumption that relationships are established in order to enhance some aspect of performance." In spite of this, research on the performance objectives of firms entering into alliances and the resulting achievements is severely lacking (Heide and Stump 1995), as is an understanding of what types of alliances exist and the unique motives for developing these different alliances (Day 1995).

Further, much of the current alliance research is on dyadic relations (e.g., material supplier-manufacturer) rather than on channel-wide relations (e.g., material supplier-manufacturer-customer). Weitz and Jap (1995) postulate that the theories and prescriptive ideas used to study dyadic relations can and should be used to better understand channel-wide alliance relationships. The reason being that manufacturers, together with their material and service suppliers, as well as their customers, have realized that closer relationships between channel members offer significant opportunities for firms to create strategic advantage and achieve improved performance and efficiency. In fact, it is argued that channel activities offer a greater source for value-added benefits to end consumers than the value added by other marketing functions (Fuller, O'Connor, and Rawlinson 1993; Weitz and Jap 1995). Given this, there is a need to determine whether a manufacturers' perceptions of alliance performance and opportunity varies based on the channel position of the selected partner. This knowledge is required before successful channel-wide alliances can be developed.

This article focuses on manufacturers and their alliances with material suppliers, customers, and logistics service suppliers. The article examines the motives for forming alliances across all three types of alliances and the actual performance objectives achieved by the alliances. The purpose of this article is to examine the importance manufacturers place on various motives based on the channel position of their alliance partner and to compare the similarities and differences in achievements across these three types of alliances. The paper will:

- Categorize potential alliance motives;
- Identify and compare the importance of these motives across the three types of alliances;
- Compare and contrast the actual achievements across the three types of alliances; and

- Discuss the impact of these results to offer firms a better understanding of what motivates manufacturers to form alliances across the supply chain and what specific performance objectives are likely to be achieved.

ALLIANCE MOTIVES

It is estimated that the number of strategic alliances will increase at an annual rate of 25 percent (Day 1995). This growth is driven by the vast array of potential benefits provided by building long-term, cooperative relationships. Rackham, Friedman, and Ruff (1996) forecast that “in the United States alone, partnering is delivering billions of dollars of value annually in terms of greater productivity, reduced costs, and new marketplace value,” and this number is significantly expanded when the value of alliances on a global basis is considered. Corning Glass, for example, attributed a profit of \$425 million to alliances over a five-year period (Lorange and Roos 1991). Rackham, Friedman, and Ruff (1996) estimate that firms may achieve better “bottom-line results” from alliances than from internal cost reduction programs (e.g., downsizing, reengineering).

Benefits extend beyond pure financial motives, such as creating new market opportunities (Varadarajan and Cunningham 1995; Rackham, Friedman, and Ruff 1996) and sustaining long-term competitive advantage (Bowersox, Daugherty, Dröge, Germain, and Rogers 1992; Day 1995).

Ellram (1991) synthesized existing literature on the benefits of alliances into three categories:

1. Financial – focusing on motives that reduce costs and increase profit in the supply process (e.g., joint investment, reduced inventory, stable supply prices);
2. Technological – focusing on motives that facilitate the supply process (e.g., sharing technology, joint new product development); and
3. Management – focusing on motives that simplify the supply process (e.g., supply base reduction, interdependence, loyalty).

An additional category, strategic, has also been used (Ellram 1990; Ellram and Cooper 1990; Hendrick and Ellram 1993). Strategic is focused on motives that competitively position

the supply process (e.g., future direction, achieving core competency). Combining all four categories provides a framework for examining the vast array of motives alluded to by Day (1995). Each category will be examined in greater detail below.

Financial Motives

Financial motives incorporate both economic performance and financial stability (Ellram 1990). Perhaps the most obvious financial motive is cost reduction (Anderson 1995; Johnston and Lawrence 1988). Cost reduction may result from the elimination of duplication and waste (O'Neal 1989; Rackham, Friedman, and Ruff 1996) as well as a reduction in the purchase price of products and services (Han, Wilson, and Dant 1993; Hendrick and Ellram 1993).

Additional financial motives result from sharing business risk, such as joint investment in capital (Ellram and Cooper 1990; Magrath and Hardy 1994) and joint product development (Frazier, Spekman, and O'Neal 1988; Varadarajan and Cunningham 1995). Joint planning and coordinated information sharing is also cited as leading to a reduction in inventory (Frazier, Spekman, and O'Neal 1988; Cooke 1994; Magrath and Hardy 1994) and a gain in economy of scale, scope and/or experience effects (Varadarajan and Cunningham 1995) that often provides improvements in equipment/capacity utilization. Quality improvements provide additional financial advantages as both partners are able to reduce scrap and defect rates (Leenders and Blenkhorn 1988; Larson 1992; Pilling and Zhang 1992; Magrath and Hardy 1994).

Technological Motives

Brouthers, Brouthers, and Wilkinson (1995) stated that firms are driven to form alliances due to a lack of sufficient internal resources. Often this lack of resources resides in technological capabilities. As businesses increasingly rely on real-time information exchange, it is harder for individual firms to stay on the forefront of technological advances. As such, a goal

for many firms is to ally with a partner that has sophisticated information capabilities (McFarlan and Nolan 1995).

Related to this is the desire for firms to gain access to a partner's research and development expertise (Ellram 1990; Morgan and Monczka 1995). This expertise allows firms to improve the new product development process as well as shorten critical leadtime to bring new products to market faster. Further, early supplier involvement in design and new product development is critical to maintaining acceptable quality in finished goods (Demmy and Petrini 1992).

Managerial Motives

Spekman (1988) maintains that close, cooperative relationships can only be achieved if the buying company works with a reduced number of suppliers. Xerox is used as an example of a company that has reduced its supply base by over fifty percent (Spekman 1988). Rackham, Friedman, and Ruff (1996) state that, in general, customers have reduced their supply base by one-third over the last ten years, with individual firms (e.g., Ford) reducing their supply base by much greater numbers. A reduced supply base provides various benefits including easier management (Ellram 1991), potential quality improvements, and allows companies to select a few key suppliers to develop productivity solutions and ways to achieve competitive advantage (Rackham, Friedman, and Ruff 1996).

Another potential motive is the ability to increase supply chain loyalty through greater partner involvement. Delaney (1994) and Maltz (1994) indicated that closer working relationships with critical customers are likely to increase customer loyalty and switching costs. Alliances often provide suppliers with "access to the buying partner's premises" (Magrath and Hardy 1994). This involvement enables the supplier to increase customer service through on-site technical and managerial support.

Cooperative relationships that encourage high levels of involvement can also provide the benefit of stabilizing inbound supply and/or outbound demand (O'Neal 1989; Ellram and Cooper 1990) Operational stability was found to be a major benefit of manufacturer-material supplier and manufacturer-logistics service supplier alliances, and to enhance supply chain efficiency (Han, Wilson, and Dant 1993).

Strategic Motives

Varadarajan and Cunningham (1995) built upon Ansoff's (1957) strategic conceptualization of growth alternatives to identify motives for entering into an alliance. The authors define four motives that focus on how a firm can maximize growth opportunities in sales and/or profit. Three of the four motives focus on the development of new markets/products. Access to new markets is often cited as a benefit of alliances (Ellram and Cooper 1990; Larson 1992), in particular when alliances are formed globally (Ohmae 1989; Lei 1993; Brouthers, Brouthers, and Wilkinson 1995; Johansson 1995).

Another strategic motive is to consider how the alliance can provide competitive advantage. Lei (1993) states that perhaps the most important evaluation managers should make when forming an alliance is to better understand how their firm's core competencies can build upon the partner's core competencies to "renew competitive advantage." Prahalad and Hamel (1990) consider core competencies as a set of value-adding skills that can be improved upon by selecting the appropriate partner. Competitive advantage results when firms "exploit synergies and leverage each partner's distinct competencies" (Frazier, Spekman, and O'Neal 1988).

The potential benefits associated with alliance practice are virtually unlimited and are likely to be specific to each individual alliance. This is due in part to the likelihood that performance objectives and motives will also vary by individual alliances. It is important to understand how these motives may differ across various types of alliances.

RESEARCH DESIGN

A survey was developed to investigate various aspects of alliance practice, including alliance formation motives and performance achievements. In an effort to include different channel members in the research, the survey was sent to 1500 professionals representing manufacturers, distributors, retailers, and logistics service suppliers (transportation and warehouse providers). The target sample included members of the National Association of Purchasing Management, the Council of Logistics Management, and the American Society of Transportation and Logistics.

An objective of this research was to also investigate whether the physical location of a company (i.e.- in a rural or metropolitan area) had any relevancy on a company's ability to form successful alliances. Therefore, respondents were asked to provide information regarding the size of the area where their primary facility was located.

A total of 180 useable surveys were returned providing a response rate of twelve percent. Since the primary goal of the research was to investigate alliance practice, a relatively low response rate was predicted since the researchers were unable to determine in advance of the mailing if every firm included in the target sample had existing alliances in place. The respondents included 109 manufacturers (60.6%), 44 logistics service suppliers (24.4%), 17 wholesalers/retailers (9.4%), and 10 others (5.6%) such as government.

A portion of the survey focused on what performance objectives motivate firms to form alliances and which objectives were actually achieved in various alliances. This list of objectives was used to determine what categories (financial, technical, managerial, or strategic) achievements were occurring in as well as whether achievements would differ across types of alliances (manufacturer-supplier, manufacturer-customer, or manufacturer-service supplier alliances). First, the development of the list of objectives will be discussed, and then, the participants' responses will be presented.

Based on an extensive literature review (summarized above), a list of objectives for forming alliances was compiled. To enable comparisons between what motives manufacturers to form alliances and what is actually being achieved, the list of objectives was used for identifying formation motives as well as actual alliance achievements. These objectives represent the benefits most often described in the literature as resulting from alliance practice. The list included broad strategic objectives (e.g., achieving a core competency) as well as more detailed financial objectives (e.g., internal cost savings). The list of sixteen objectives is presented in Table 1.

Table 1
Alliance Motives

Access to Information Technology	Increased Utilization of Equipment/Capacity
Access to New Markets	Internal Cost Savings
Access to Research and Design Expertise	Leverage/Share Capital Investment
Achieved Core Competency	Reduced Cycle Time/Leadtime
Improved Quality	Reduced Inventory
Increased Customer Dependency/Loyalty	Reduced Price/Cost
Increased Customer Service	Reduced Supplier/Customer Base
Increased Supplier/Customer Involvement	Stabilized Supply/Demand

RESEARCH RESULTS

Survey respondents were asked to indicate the importance of each objective (Table 1) for motivating their firm to form an alliance with a material supplier, customer, and service supplier. A five point scale was used where 1 equaled “not an important motive” and where 5 equaled “an extremely important motive.” The mean scores and standard deviations for each objective are summarized in Table 2. For simplification, the table is organized based on the mean score for manufacturer-supplier alliances (extremely important - not important) to facilitate a comparison across the three alliances.

Table 2
Importance of Alliance Motives for Manufacturers

[Mean Response/Standard Deviation (Sample Size)]

<u>Objectives</u>	<u>Material Supplier Alliances</u>	<u>Customer Alliances</u>	<u>Service Supplier Alliances</u>
Reduced Cycle Time/Leadtime	4.42/0.79 (86)	4.21/0.93 (70)	4.09/1.03 (70)
Reduced Inventory	4.39/0.84 (87)	3.94/1.12 (71)	3.40/1.31 (70)
Stabilized Supply/Demand	4.26/0.88 (87)	4.11/0.93 (72)	3.58/1.20 (71)
Improved Quality	4.25/1.02 (85)	4.21/0.86 (72)	4.03/1.13 (70)
Increased Customer Service	4.21/0.96 (84)	4.58/0.64 (72)	4.31/0.91 (72)
Reduced Price/Cost	4.13/0.97 (85)	3.65/1.07 (71)	3.86/1.11 (73)
Internal Cost Savings	4.09/0.95 (86)	3.87/1.08 (71)	4.03/1.13 (72)
Increased Supplier/Customer Involvement	4.02/0.96 (82)	4.13/0.89 (72)	3.59/1.25 (69)
Reduced Supplier/Customer Base	3.93/1.01 (83)	3.23/1.31 (70)	3.42/1.30 (69)
Increased Customer Loyalty	3.89/0.99 (80)	4.19/0.89 (74)	3.60/1.04 (70)
Achieved Core Competency	3.77/1.09 (84)	3.80/1.05 (69)	3.68/1.19 (68)
Access to Information			
Technology	3.65/1.11 (83)	3.66/1.10 (70)	3.36/1.20 (70)
Access to R & D Expertise	3.65/1.18 (82)	3.26/1.41 (70)	2.65/1.23 (68)
Increased Utilization of			
Equipment/Capacity	3.48/1.20 (79)	3.54/1.20 (70)	3.39/1.27 (71)
Access to New Markets	2.96/1.19 (81)	4.04/0.98 (70)	2.96/1.30 (68)
Leverage Capital Investment	2.82/1.24 (79)	2.69/1.22 (65)	2.60/1.24 (67)

There are noticeable differences in the motives based on the specific type of alliance. For example, reduced inventory appears to be a stronger motive for manufacturers when they are forming an alliance with a material supplier than with a customer or service supplier. This may indicate that material supplier alliances are more likely to focus on inbound manufacturing strategies such as Just-in-Time, whereas customer and service supplier alliances may be more focused on outbound service strategies. Access to research and design expertise is relatively neutral in importance when manufacturers were asked about material supplier and customer alliances, but even less important for service supplier alliances. Access to new markets is substantially more important to manufacturers when forming alliances with customers than with material or service suppliers. This again may illustrate the influence of inbound and outbound strategies when partnering with different supply chain members. Further, leveraging capital

investment, which is often cited as important in the literature, was relatively unimportant to manufacturers regardless of the channel position of the alliance partner.

Table 3 highlights some of the differences in formation motives by selecting the top five motives (by highest mean score) for each alliance type. From this table, it is clear that manufacturers are hoping to increase customer service, reduce cycle time/leadtime, and improve quality in all three types of alliances. However, in alliances with material suppliers, reducing inventory and stabilizing supply/demand are critical (inbound strategies). In customer alliances, gaining loyalty and increasing customer involvement are critical (outbound strategies). This would allow the manufacturer to increase its customer's cost to switch suppliers, and, thus, ensure the manufacturer's place in the channel as a preferred supplier. For service supplier alliances, internal cost savings are important to manufacturers. This may be due to outsourcing issues where the manufacturer has decided to "buy" as opposed to "make" logistics services based on the cost advantages the service supplier provides. Also, the manufacturer may perceive that outsourcing will provide significant service advantages as well. This is illustrated by the fact that achieving a core competency is ranked in the top five service supplier motives.

**Table 3
Top Five Manufacturer Alliance Formation Motives**

<u>Material Supplier</u>	<u>Customer</u>	<u>Service Supplier</u>
Reduced Cycle Time/Leadtime	Increased Customer Service	Increased Customer Service
Reduced Inventory	Reduced Cycle Time/Leadtime	Reduced Cycle Time/Leadtime
Stabilized Supply/Demand	Improved Quality	Improved Quality
Improved Quality	Increased Customer Loyalty	Internal Cost Savings
Increased Customer Service	Increased Customer Involvement	Achieved Core Competency

Given the differences in importance of motives across the three types of alliances, it is likely that what is actually achieved by each alliance will also vary. This variance would be expected, as firms are encouraged to develop the alliance to achieve their key formation motives.

Survey respondents were asked to select an existing alliance and identify whether the alliance was with a material supplier, customer, or service supplier. Fifty-eight of the 105 total alliances were developed with material suppliers, nineteen were with customers, and twenty-eight were with service suppliers. The respondents were then asked to evaluate the list of sixteen objectives in terms of whether each objective had actually been achieved in the selected alliance. A five point scale was used where 1 equaled “my firm has not achieved this objective” and where 5 equaled “my firm has definitely achieved this objective.” The mean scores and standard deviations for each objective are summarized in Table 4. For simplification, the table is organized based on the mean scores for material supplier alliances (achieved - not achieved) to facilitate a comparison across the three types of alliances.

Table 4
Manufacturer Alliance Achievements

[Mean Response/Standard Deviation (Sample Size)]

<u>Objectives</u>	<u>Material Supplier Alliances</u>	<u>Customer Alliances</u>	<u>Service Supplier Alliances</u>	
Reduced Inventory* Reduced Supplier/Customer Base*	3.94/0.89 (53)	2.94/1.19 (17)	3.20/1.00 (25)	a, b
Reduced Cycle Time/Leadtime	3.76/1.05 (51)	2.13/0.99 (15)	3.50/1.14 (24)	a, c
Increased Customer Service	3.72/1.06 (53)	3.31/1.19 (16)	3.74/0.75 (23)	
Increased Supplier/Customer Involvement	3.68/0.94 (53)	3.89/0.58 (18)	4.16/0.69 (25)	
Stabilized Supply/Demand	3.68/0.96 (53)	3.76/0.75 (17)	3.52/1.01 (25)	
Increased Customer Loyalty	3.68/0.99 (53)	3.24/0.90 (17)	3.42/0.88 (24)	
Internal Cost Savings*	3.56/1.01 (50)	3.41/1.00 (17)	3.36/1.04 (25)	
Reduced Price/Cost*	3.55/0.93 (53)	2.81/1.05 (16)	3.76/1.01 (25)	a, c
Improved Quality	3.53/0.95 (53)	2.76/1.20 (17)	3.34/1.30 (25)	a, c
Access to R & D Expertise*	3.41/1.09 (51)	3.50/0.89 (16)	3.92/0.81 (25)	
Access to Information Technology	3.36/1.10 (50)	2.50/1.10 (16)	2.29/1.16 (24)	a, b
Achieved Core Competency*	3.14/1.11 (50)	3.19/1.28 (16)	3.33/1.05 (24)	
Increased Utilization of Equipment/Capacity	3.04/1.15 (51)	3.19/0.91 (16)	3.70/0.93 (23)	b
Access to New Markets	2.80/1.24 (49)	3.19/0.98 (16)	3.33/1.05 (24)	
Leverage Capital Investment	2.35/1.08 (46)	2.75/1.06 (16)	2.61/1.19 (23)	
	2.31/1.10 (51)	1.93/1.10 (15)	2.38/1.37 (24)	

* Significant at the $\alpha = .05$ level

a = material supplier-customer difference

b = material supplier-service supplier difference

c = customer-service supplier difference

In order to investigate the question of whether or not the physical location of a company's facilities had any effect on its ability to form successful partnerships the data was also evaluated by divided respondents into groups based on the population category where they were located. Interestingly there were no significant differences found among the groups based on location alone. Therefore, the research questions further investigated were focused more on other differences between the alliances based on the channel position of the alliance.

Table 5 highlights some of the differences in achieved objectives by selecting the top five objectives (by mean score) for each alliance type. From this table, it is clear that manufacturers achieved increased customer service and cycle time/leadtime improvements across all three types of alliances, which is in agreement with the formation motives. However, increased quality was only a top achievement for manufacturer alliances with customers and service suppliers, not material suppliers. Yet, increased quality was an important motive for all three alliances.

Table 5
Top Five Manufacturer Alliance Achievements

<u>Material Supplier</u>	<u>Customer</u>	<u>Service Supplier</u>
Reduced Inventory	Increased Customer Service	Increased Customer Service
Reduced Supply Base	Increased Customer Involvement	Improved Quality
Reduced Cycle Time/Leadtime	Improved Quality	Internal Cost Savings
Increased Customer Service*	Increased Customer Loyalty	Reduced Cycle Time/Leadtime
Increased Supplier Involvement*	Reduced Cycle Time/Leadtime	Achieved Core Competency
Stabilized Supply/Demand*		
* NOTE: These achievements had identical means.		

In manufacturers alliances with customers and with service suppliers, the top five achievements were identical to the top five motives (Table 3). This indicates potential success

for these alliances since meeting performance expectations is a critical aspect of alliance success.

Manufacturer-Material Supplier Alliances

In manufacturer-material supplier alliances, reductions in inventory and supply/demand stability were both top achievements and top motives. Two other achievements were supplier/customer base reduction and increased supplier/customer involvement. While these objectives were not in the top five motives (Table 3), they were relatively importance motives (ranked in the top ten).

It is also interesting to note what has not been achieved by these alliances. For manufacturer-material supplier alliances, increased utilization of equipment/capacity, access to new markets, and leveraged capital investment were not achieved to any great degree. Further, the mean response to achieving a core competency was neutral.

Access to new markets and leveraged capital were low motives for manufacturers in terms of material supplier alliances so it is not surprising that these objectives were not achieved. Utilization of equipment/capacity, while ranked low for a motive (14th of 16 objectives), was a relatively important motive based on the mean response. It is interesting that supply/demand stability was achieved in manufacturer-material supplier alliances, but this did not appear to improve equipment/capacity utilization. One potential explanation is that quality, which was a strong motivator in these alliances, was not achieved to a large degree. Quality may be impacting the manufacturers' ability to adequately utilize equipment/capacity. Given that quality was not a top achievement, increased utilization of equipment/capacity was not achieved either.

A core competency was not achieved to any great degree in manufacturer-material supplier alliances, but was a relatively important motive. It appears that manufacturer-material supplier alliances are currently more focused on relational objectives (e.g., increased customer

service) than on broader strategic objectives (e.g., core competency). This may indicate that the manufacturer-material supplier alliances in this study are in initial development stages where relational objectives must be achieved prior to focusing on strategic initiatives.

Manufacturer-Customer Alliances

For manufacturer-customer alliances, the top five motives were identical to the top five achievements with small changes in the order of the ranking. Internal costs savings, reduced price/cost, access to new markets, access to research and design expertise, reduced supplier/customer base, and leveraging capital investment were not achieved. The response for reduced inventory was neutral.

Leveraging capital, access to research and design expertise, and reduced supplier/customer base were relatively low rated motives, so it is not surprising that these objectives were not achieved. Further, in this context, manufacturers would probably not want a customer base reduction.

Internal cost savings and reduced price/cost were relatively important motives for manufacturers forming customer alliances. Manufacturers may be finding that in order to achieve objectives, such as increased customer involvement and loyalty, and enhanced overall service, the cost to service alliance customers is actually increasing. This idea that costs increased is also generally supported by the fact that the mean response concerning achieving a reduction in inventory was neutral.

Finally, access to new markets, which was a strong motive for manufacturers entering into alliances with customers, was not achieved to any great degree. Manufacturers entering into alliances with customers in order to gain new market access would be wise to carefully evaluate the partners' ability to aid in the expansion to new markets. Similar to manufacturer-material supplier alliances, these manufacturer-customer alliances may be in the initial

development and, thus, are focusing on building the relationship through increased involvement and loyalty, rather than focusing on strategic aspects such as new market access.

Manufacturer-Service Supplier Alliances

For manufacturer-service supplier alliances, the top five motives were identical to the top five achievements with small changes in the order of the ranking. The items not achieved to any great level were access to new markets, leveraging capital investment, and access to research and design expertise. None of these objectives were strong motives for manufacturers entering into alliances with service suppliers. As such, it is understandable that these objectives were not achieved.

It appears that of the three types of alliances, manufacturer-service supplier alliances are currently the closest to meeting manufacturers' expectations with respect to the agreement between formation motives and actual accomplishments. Manufacturer-material supplier alliances appear to have the lowest fit between formation motives and actual achievements.

Channel Comparison of Objectives

The results in Table 4 indicate that the achievements differ across the three types of alliances. For example, access to research and design expertise has been achieved to some degree in manufacturers' alliances with material suppliers, but not with customers or service suppliers. These differences are interesting, but it is unclear if they are statistically relevant. As such, it is hypothesized that:

H1: No significant differences exist between the achieved objectives across the three types of alliances.

ANOVA was used to test each of the objectives in order to provide cross-alliance comparisons. As shown in Table 4, no significant differences were found (where $\alpha = .05$) across the three alliance types and between the means of paired group scores (using Scheffé

tests) for reduced cycle time/leadtime, increased customer service, increased supplier/customer involvement, stabilized supply/demand, increased customer loyalty, improved quality, access to information technology, increased utilization of equipment/capacity, access to new markets, and leverage/share capital investment. Interestingly, the mean score for leveraging/sharing capital investment was below a neutral response of 3.00 for all three alliance types indicating that this objective is not being achieved to any great degree. This is in agreement with the responses concerning formation motives. As shown in Table 2, leveraging capital investment was the least important formation motive across all three alliance types.

The remaining objectives revealed that H1 could be rejected. Scheffé tests were used to pinpoint where differences existed across the paired groups. Table 4 highlights the significant differences.

Manufacturers achieved reductions in inventory to a greater degree in alliances with material suppliers than with customers or service suppliers. This is explained in part by the fact that it was a top five motive for material supplier alliances but not for customer or service supplier alliances. It may be that manufacturers are forming material supplier alliances to focus on inbound strategies as mentioned previously. Manufacturers may not realize the opportunities to extend these inbound strategies throughout the supply chain to outbound relationships. Further, manufacturers may not yet realize the opportunity exists to use service suppliers' expertise to gain additional reductions in inventory. Service suppliers can often provide sophisticated inventory management software and information technology that could be used to reduce inventory levels (Masters, LaLonde, and Williams 1991). This highlights the potential benefit of network or supply chain alliances.

Not surprisingly, customer alliances did not achieve supplier/customer base reductions to as great a degree as material and service supplier alliances. This is likely to be due to the fact that manufacturers are not necessarily motivated to reduce their customer base. However, as discussed in the literature review, supply base reduction is a key strategy for many

manufacturers. This reduction extends beyond material suppliers to also include service suppliers.

Similarly, internal cost savings and reductions in price/cost were achieved to a larger degree in manufacturers' alliances with material and service suppliers than with customers. This may illustrate that when firms begin an alliance where their focus is on "selling," they are more likely to work on improving the relationship than reducing their own costs. However, the reverse may be true when firms are beginning an alliance where they are "buying" products and services. In this case, the firms are perhaps more likely to desire/find economic benefits initially.

Access to research and design expertise was only seen in alliances between manufacturers and materials suppliers. This is explained by the recent strategy of manufacturers to include suppliers early in the design process. Manufacturers have realized that their suppliers often have critical expertise that, if included in the design process, can improve the final product design in terms of quality and costs to produce (Demmy and Petrini 1992; Burt and Doyle 1993; Dixon and Porter 1994). This opportunity to benefit from research and design expertise may not be as prevalent in manufacturers' alliances with customers and service suppliers.

Finally, achieving a core competency was accomplished to a greater degree in service supplier alliances than in material supplier alliances. Specialization, by its very nature, indicates a core competency. Manufacturers are more likely to view their own core competency in terms of product quality and manufacturing efficiency. Material suppliers may be viewed as an extension of the manufacturers' core competency, *or* as providing "commodity-like" products that are easily substituted and therefore do not provide core competency. Service suppliers' expertise is in providing specialized, custom solutions for their customers which allows the "exploitation of core competency." Manufacturers presumably outsource to service suppliers to acquire this expertise. In this manner, it is likely that manufacturers recognize the potential for

this achievement more in service supplier alliances than in other alliances within the supply chain.

IMPLICATIONS AND CONCLUSION

The results of this research support the notion that both the motives for forming alliances and the achieved outcomes resulting from these alliances differ based on the relative channel position of the firm. There does not appear to be any difference in alliance formation motives or ability to form successful alliances based solely on the physical location of the firm (i.e.- rural versus in a metropolitan area).

Formation motives across the three types of alliances varied to some degree, with the primary differences most evident in material suppliers. Formation motives were quite similar between manufacturers and their customers and service suppliers. These differences raise several important issues regarding the various motives for forming alliances with respect to competitive advantage and the likelihood of a manufacturer entering into alliances with different channel members. Specifically, it also indicates that network alliances may be more likely to form initially between manufacturers, customers, and service suppliers where the goals and objectives are common and focused on outbound strategies.

The similarity between customer and service supplier alliances may be due in part to the manufacturers' realization that the delivery system has become an integral part of the manufacturer's product offering. As such, logistics is being increasingly viewed as a driver of differentiation. Logistics has become essential to product strategy since more products are now being marketed as bundled with services (Bowersox 1990; Fuller, O'Conor, and Rawlinson 1993). This may be the primary reason that increased customer service, reduced cycle/leadtime, and improved quality were found to be the most important achievements that manufacturers have realized when forming alliances with both their customers and service suppliers (and to some degree with material suppliers).

The achievement of these objectives is particularly challenging with service suppliers due to the intangibility of services and their inability to be inventoried or verified in advance (Parasuramon, Zeithaml, and Berry 1985). Since customers are increasingly viewing the manufacturer (supplier) and the logistics service provider as a single entity (Dahlstrom, McNeilly, and Speh 1996), the strategic importance of manufacturer and service supplier alliances is likely to continue to escalate in the future.

This research has also identified some areas where improvements in alliance practices can be made. For example, the top five formation motives were almost identical to the top five alliance achievements between manufacturers and their customers and service suppliers. However, there were some inconsistencies between formation motives and actual alliance achievements found with respect to manufacturer-material supplier alliances.

In material supplier alliances, reduced cycle time/leadtime was found to be the most important formation motive but ranked third in actual achievements. Therefore, this appears to be an area that is not being fully maximized in terms of what the alliance is offering to both manufacturers and material suppliers, not to mention to the entire supply chain. Perhaps more importantly, improved quality was a primary formation motive for material supplier alliances, but was ranked tenth in actual achievements. Whether the reason for this lies in the partnering firms having different perceptions of "quality" or in not having measurable, pre-defined objectives, there appears to be a substantial degree of potential improvement in this area of manufacturer-material supplier alliances.

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