

## **Beef Alliances: Motivations, Extent, and Future Prospects**

Ted C. Schroeder

and

Joseph Kovanda\*

Published in:

*The Veterinary Clinics of North America Food Animal Practice*  
**19(2003):397-417**

\* Professor and Graduate Research Assistant, Department of Agricultural Economics, Waters Hall, Kansas State University. We acknowledge helpful comments from Stephen Koontz on an earlier version of this report.

## **Introduction**

Over the past decade substantial changes have occurred in buyer-supplier relationships. Firms have increasingly recognized that cooperative rather than adversarial vertical relationships can better accomplish goals of both firms. One popular method used to improve vertical cooperation and profitability has been formulation of strategic alliances. Industry estimates suggest that among the top 1,000 U.S. companies, the percentage of revenue resulting from alliances was 20% in 2001 and expected to grow to 30% by 2004 (Ertel). With their broad popularity in business, not surprisingly, alliances are becoming an important business arrangement in the livestock and meat complex. For example, numbering only a handful a few years ago, Cattle-Fax estimates that as many as 60 different beef industry alliances currently operate in the U.S. Despite rapid growth, alliances are potentially risky ventures with 60-70% of business alliances reportedly failing (Speckman et al.; Day; and Accenture Consulting referenced by Gonzalez).

With their growth, it is important to consider how alliances will impact the beef industry in the future. Alliances have the potential to make sweeping changes to cattle production, live and feeder cattle marketing, food safety protocols, use of government grades and standards, ownership structure, supply chain management, wholesale and retail product marketing, risk management, and many other industry activities. In an effort to address these issues, this chapter addresses the following questions: What is an alliance? What has motivated their proliferation? What have we learned from alliances? What aspects of alliances affect their likelihood of success or failure? What is the future of alliances? Are they a fad or a long-term evolving industry structural change?

## **Definition**

An alliance is an association among groups established to accomplish a particular goal more effectively than the parties can do independently. From the standpoint of firm organization, an alliance is just one of many governance structures. Firms that engage in such joint efforts do so because they perceive the present value of the expected economic benefits exceed the costs associated with the alliance. Ward and Estrada suggest vertical alliances, which they define as the relationship between individual firms or organizations in two or more adjacent stages of the production-marketing channel without full ownership or control by individual firms, arise out of the need for *vertical cooperation*. They suggest that “participants maintain independence but share information to effectively price products and improve the flow of products and information among the vertical production-marketing stages.” For reasons that will be discussed later, improved vertical coordination is critical to the beef industry’s future success.

Vertical coordination becomes vertical integration when stages are owned fully by one firm. Vertical integration arises out of the desire to eliminate transactions costs, decrease uncertainty, and capitalize on input/output price differentials (Cozzarin and Barry). Alliances are viewed as the middle point of a continuum between open market transactions and vertical integration (Sporleder) and are preferred when firms believe that “malleable vertical control” has higher potential than no control (open market) or full control (vertical integration). It is important to understand the similarities and

differences between alliances and other forms of vertical coordination because alliances are organizational structures that seek to obtain the benefits of vertical integration without full ownership by one firm (Whipple and Frankel) This organizational behavior of alliances has been referred to as “vertical quasi integration” (Blois).

“An interfirm alliance is any agreement for cooperation among independent firms designed to serve a strategic purpose” (Sporleder, p. 229). Firms forming alliances use informal agreements, rely heavily on trust, and share unique assets with their partners (Sporleder). As alliances share assets, they build an inherent obligation to each other which leads to continual performance. As the degree of shared assets increases so do the opportunity costs of exiting the alliance and as a result success is potentially greater.

Risk considerations are helpful in the alliance formation decision. Most independent firms must address performance risk (uncertainty associated with market factors). Alliances are challenged with dual risk from both performance and relational risk (uncertainty associated with business partners) (Das and Teng).

Research on the theory of the firm also attempts to describe reasons for alliance formation. Williamson uses transaction cost theory of the firm to classify transactions and identify which governance structures are most effective at governing each classification. Economic efficiency should cause firms to choose the governance structure that best matches their transaction type. Transactions costs are the costs of managing inter-firm relationships (Barkema) and often include search and contracting costs, among others. Transactions can be grouped according to their degree of uncertainty, frequency of occurrence, and amount of “transaction-specific investment” required to complete. “Transaction-specific investments,” called idiosyncratic transactions, are outlays made to benefit a specific transaction, and would not be valuable in normal market transactions. Beef industry examples include investments in improved genetics, alliance stock ownership, and investment in a branded beef product line. The opposite of idiosyncratic are nonspecific investments, which are common in transactions traded in open/spot markets.

Transaction theory addresses the impacts of asset investment on governance structure, whereas, positive agency theory addresses the impacts of uncertainty between two firms. Positive agency costs from the standpoint of a contract between two parties are the sum of monitoring costs, bonding costs, and the cost of not achieving a firm’s expectations (Jensen and Meckling). These costs represent information about another firm that is unknown. Mahoney suggests that transactions and agency costs need to be weighed concurrently to accurately assess the impacts of asset investment and uncertainty on governance structure.

Commodity products are commonly governed by open-spot market structures which identify important price information (Young and Hobbs). However, when transaction-specific investments are high, other governance structures are more effective for exchange of products as well as non-price information. To address this problem, Williamson proposed the following governance structures: market, bilateral (alliances),

and unified (vertical integration). Market governance is optimal when transactions occur frequently or infrequently and when investments are nonspecific. Bilateral governance is ideal when transactions occur frequently and a mix of both nonspecific and specific investments is involved. Finally, unified governance is optimal with frequent transactions and idiosyncratic investment. Thus, alliances become the intermediary form of governance between transactions costs that are too high for open market, but are too low for vertical integration (Das and Teng).

Research studying alliance structure and design motivations in the beef industry is limited. Generally, beef alliances have taken two paths in design structure, equity-based and non-equity based. Equity-based alliances require a financial investment to participate, often by purchasing shares in the alliance. Non-equity alliances require a formal agreement, but no financial investment. However, recent research (Hudson and Purcell) identifies some important impacts that alliance design can have on improving vertical coordination and ensuring success of the alliance. One of the main choices that beef alliances face is how to compensate alliance partners for profits generated by the alliance itself. Sharing of positive and negative marketing margins as well as profits generated from increased coordination are the two most common forms of compensation. Designing the mix of these compensation alternatives has critical impacts on the economic signals communicated to alliance partners. As a result, vertical coordination can be stimulated or hindered by alliance design.

Horizontal alliances also exist and are often motivated by a desire for a group of individuals or firms to collectively provide a particular service. Horizontal alliances are often driven by attempts to capture economies of scale and/or scope in provision of services. For example, several horizontal alliances provide marketing and data services for cattle producers. This chapter focuses primarily on vertical alliances. However, many of the motivations as well as performance measures regarding alliance effectiveness are similar across both types of alliances.

### **Motivation**

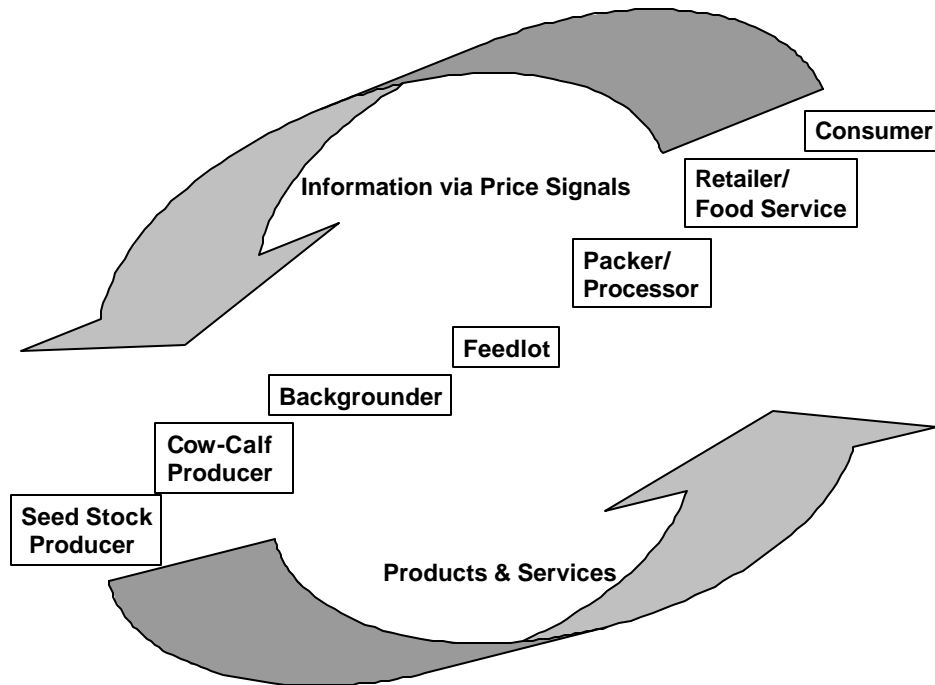
Twenty years of declining demand plagued the beef industry during 1980s and 1990s. If the beef industry would have offered the same amount of retail product per person in the U.S. in 1998 as was offered in 1980, retailers would have had to sell it at half price in order to entice consumers to buy it all (see Purcell and the related chapter in this book by Purcell and Lusk). Such dramatic decline in demand caused considerable restructuring and downsizing of the beef industry. Numerous factors affect beef demand over time. However, among the most important are 1) price of beef relative to competing meats, 2) consumer income, 3) health and nutrition concerns, 4) food safety, and 5) product attributes relative to changing consumer preferences (Schroeder, Marsh, and Mintert).

During the 1990s, trends in the first two factors supported beef demand. That is, beef became cheaper relative to competing meats and consumer incomes were growing. Without these trends, the decline in beef demand would have been even more severe and considerably larger exit from the industry would have occurred. Nevertheless, the last

three factors had enough negative influence on beef demand to more than offset positive impacts associated with the first two factors (Schroeder and Mark). Since 1998, after nearly 20 years of continuous decline, beef demand has increased each year. These increases have been attributed in part to improved vertical coordination in the beef industry.

To revitalize beef demand, the industry needs to focus on those previously ignored demand factors: producing a healthy, nutritious, and safe product that appeals to consumers' evolving tastes and preferences. This focus must be combined with an emphasis on producing beef at a price that is competitive with other protein sources. The only way to accomplish this is to have a vertically coordinated beef industry. Each participant in the vertical production and marketing chain must have clear market signals to produce beef that consumers want. With adequate incentives producers will make necessary production and marketing changes to meet customer needs.

Fixing vertical coordination problems in an industry possessing the characteristics of the beef production and marketing business is a daunting task. The vertical beef market chain is displayed in figure 1. Traditionally, markets at each of the vertical stages were used to send price signals from consumers to producers to signal what products and services were being desired. However, as evidenced by the dramatic and precipitous nearly two decades of declining consumer demand for beef, these markets clearly failed to send appropriate signals from consumers down the marketing chain to producers. One of the most noteworthy failures occurred at the feedlot to packer market where fed cattle have traditionally been sold on an average live animal basis despite well-documented sizable differences in value among different animals (Schroeder and Graff). With failure to send adequate signals from packers to feedlots, feedlots had little incentive to pay quality differentials for feeder cattle, and likewise backgrounders did little to distinguish value when buying calves. As a result, cow-calf producers received little incentive to make genetic changes over time to their herds. The traditional market and pricing system was not effectively coordinating the vertical beef production and marketing system.



**Figure 1. Vertical Beef Production and Marketing Chain**

The failure of a market system can occur for several reasons. An efficiently operating vertical marketing chain provides clear vertical market signals from consumers to producers of exactly what to produce and in what amounts. However, these market signals may not be fully transmitted if for example: a) the ability to accurately measure the characteristics of the product consumers demand are inadequate, b) visual assessment of live animals (finished cattle and even worse for feeder cattle) is a poor predictor of meat yield and eating quality, c) USDA quality grades are inadequate indicators of eating quality, d) information regarding particular animal production methods (e.g., use of synthetic growth hormones, feeding genetically modified feeds) are not verifiable by inspecting the animal or meat, e) food safety protocols are difficult to ensure, and f) perhaps most importantly, if animals and/or meat of varied quality are mixed and commingled at various stages of the production and processing stage and never resorted. These factors and more contributed to market failure in the beef industry. Properly designed strategic alliances can effectively address most of these market failures.

### **Coordination Challenges**

The reasons the beef production and marketing chain is difficult to coordinate are numerous but a few deserve special note because they are instrumental as to why alliance arrangements may be necessary to accomplish the goals of the various participants and address some of the market failures. In particular these challenges include, 1) the large number of small producers spread out all over the country with diverse genetics and varied incentives for being in the business makes coordinating activity difficult, 2) huge variability in cattle and beef quality with inadequate objective measures to identify quality differences, 3) adversarial buyer-supplier relationships throughout the industry

that inhibit progress, and 4) many product attributes that are based upon credence and cannot easily be verified without substantial costs.

#### *Many Small Operations*

Beef production is highly decentralized with 815,000 cow-calf producers, 90% of which have less than 100 cows, located throughout the U.S. Individually, these small operations cannot efficiently target branded product markets because they cannot supply the continuous volumes required to maintain such programs and they cannot coordinate such a business effort. However, many of these producers believe they can increase profit by getting more closely linked to consumers.

#### *Heterogeneous Cattle and Beef with Poor Measures Predicting Eating Quality*

Calves from several different herds are generally commingled during growing and finishing without preserving herd of origin identity. Fed cattle are heterogeneous within herds and commingling further increases the heterogeneity of cattle within pens. Accordingly, fed cattle diversity leads to considerable variability in meat product quality.

With accurate and economically feasible ways to measure meat quality and identify and sort meat products accordingly, problems associated with product heterogeneity could be reduced. However, heterogeneity is a difficult problem to solve because cattle quality attributes and red meat yield cannot be accurately assessed on a live animal basis. Visual inspection is a poor predictor of meat quality. Carcass merit and value can be determined more accurately after slaughter. However, even after slaughter, subjective USDA quality grades are inconsistent and it has been well documented that quality grades are poorly correlated with eating experience (Schroeder et al. 1998). Thus, valuing carcasses using USDA standards alone is error prone. Technology to more accurately measure meat product quality is being developed (e.g., mechanical measures of meat tenderness and image analysis of marbling and lean color).

Interestingly, post-harvest quality measurement and development of technology to more accurately measure quality attributes increase the likelihood of alliance formation between vertical market participants. The reason is that a significant motivation for forming an alliance is to develop a method to share detailed information among the parties to increase the ability of the supplier to respond accordingly. A processor is much more likely to share detailed quality and yield information they have acquired about cattle they slaughter if they know their supplier will utilize this information to improve their production practices and supply these improved cattle to this processor and not to a competing processor. If the producer uses the information purely for his own gain, the processor has lessened incentive to invest in such technology and no incentive to provide detailed information back to the producer.

#### *Adversarial Buyer-Supplier Relationships*

The beef marketing chain has traditionally been highly adversarial across market stages. Commonly producers and beef packers are seen having antagonistic relationships toward each other, but often rivalry is apparent even across different stages of production (e.g., cow-calf producers and cattle feeders). Adversity stems from the ownership

structure of the industry, distrust, and imperfect information. Generally, each stage of production is owned by different individuals. However, recent vertical integration, especially as has been observed in the swine industry, has consolidated portions of vertical marketing stages into singular ownership. Some cattle producers are concerned similar integration could occur in cattle markets. Unfamiliarity of participants at different market stages with motives, margins, and business strategies at other stages also creates tension among industry participants.

Adversarial relationships among players at various vertical stages of a market system may be considered beneficial because it fosters competition. To some extent this may be true. However, adversarial relations between suppliers and customers contribute to distrust and continuous tension. Consider how an adversarial relationship between veterinarians (suppliers of animal health services) and customers compares to when it is congenial and built on information sharing, trust, and respect for what each contributes to the other. Benefits of such a cooperative vertical relationship are similar for cow-calf producers and cattle feeders, and between cattle feeders and beef processors, etc. This vested interest in better cooperation motivates alliance formation.

#### *Credence Issues and Product Branding*

Production practices are becoming increasingly important to processors, food service, and consumers, but verification of production practices is a difficult task. To ensure particular production practices some form of verification and auditing may be necessary because the end-product may otherwise be indistinguishable from products produced using alternative production practices. The issue of country of origin labeling is a good example of a product credence issue. Beef from U.S. cattle cannot be discerned from beef from Canadian cattle (even after a consumer consumes the product). The only way to ensure this is with a verifiable audit process. Such credence issues, if they are important to consumers and/or government regulatory agencies, increase motivation for formation of alliances that assure production practices.

A challenge for the beef industry relative to swine and poultry is that high quality genetics do not ensure end-product quality. Poultry and swine are produced in relatively homogeneous fashions compared to beef. Poultry and swine are continuously fed high-energy grain-based diets throughout the production phase, rations are consistently targeted toward optimal economic rate of gain, and harvest date is based largely upon weight. In contrast, cattle production methods vary considerably from largely roughage-based diets throughout the production phase to predominantly grain-based diets. At what ages cattle are placed on higher energy rations, implant programs used, and numerous other production management techniques impacts end product characteristics. Considerable research has demonstrated that different cattle feeding regimes, time on feed, and start and finish weights impact meat quality even within a particular breed (e.g., Bartel, Preston, and Miller; Brandt et al.; Van Koevering et al.). Further, numerous post-harvest processing, aging, handling, and even food preparation methods can have considerable impact on beef eating quality (e.g., Miller et al.). Koohmaraie estimates that among cattle of all breeds about 46% of variation in tenderness is genetic and 54%

related to other factors (e.g., time on feed, stress, carcass chilling, postmortem aging, cooking method, and end point temperature).

Clearly, to offer the consumer a guaranteed tender or other high quality guarantee, multiple layers of the production, processing, and food preparation vertical marketing chain play a nontrivial role. Branded, case-ready products have become popular with consumers as they prefer increased product accountability, assurances, and consistency that characterize branded products. However, branded beef product offerings are still limited, especially relative to pork and poultry, because of coordination challenges, lack of product differentiation, and resistance by some retailers. Here again, the incentive to vertically align the production and marketing activities for assuring particular beef quality attributes becomes apparent.

### *Summary of Challenges*

Together these industry trends make the cattle and beef production and market environment well suited for forming alliances to increase coordination from farm to retail. These conclusions were substantiated by a 1993 field study by the National Cattleman's Association (NCA). The study compared a group of cattle managed by an alliance consisting of cow-calf enterprises, a feedlot, and a packer to the findings of the National Beef Quality Audit (NBQA)<sup>1</sup> cattle. The NBQA identified \$279.82 per head of costs that are caused by non-conforming cattle. NCA found that basic production changes facilitated by sharing information and increasing communication between alliance partners decreased these non-conforming costs \$43.50 per head, from \$279.82 to \$236.32 per head.

The source of the cost savings was most significant in three areas: "waste" (\$31.25 per head), improved management (\$8.66 per head), and weight control (\$3.66 per head). The "waste" category took excess external fat, seam fat, beef trim fat content, and muscling into consideration. The "management" category considered losses from carcass pathology, dark cutters, injection sites, bruises, and other areas. Finally, the "weight" category considered gains from targeting carcass weight to a narrower range of 625 to 825 pounds. NCA showed that organizing industry partners and giving them the incentive to communicate both downstream and upstream in the supply chain, had a significant effect on reducing the costs of non-conformity. The study showed that improved quality, consistency, and competitiveness of beef were a result of exploiting inefficiency, namely improving production through better communication between the three alliance partners.

In summary, incentives for alliances in the beef industry include: 1) a need for improved price signaling and the desire for more value-based pricing 2) a need for cooperation among individual producers who are unable to be closely linked to their final consumers on their own, 3) a need to reduce "adversarial tension" between sectors of the industry to encourage better cooperation that would improve efficiency, 4) a need to

---

<sup>1</sup> The NBQA was a study funded by the National Cattlemen's Beef Association to evaluate the quality, consistency, and competitiveness of the United States' fed steers and heifers.

determine cattle value after harvesting, and 5) the need for improved coordination, assured supplies, and verified quality specifications to meet demand for branded beef.

### **Extent of Alliances**

Producers have tended to be the catalysts to development of alliances. Over time some producers became disenchanted with the inefficient cattle pricing and valuation system, so they initiated changes in the way they produced and marketed cattle. Opportunities to better coordinate the production, processing, and marketing phases of the industry and target particular consumer segments with branded beef products appeared substantial. However, to accomplish this took a marked change in industry participant philosophies.

One of the early agreements between a cattle feeder and a beef packer was launched in the late 1980s by Cactus Feeders and IBP.<sup>2</sup> Although it may not be considered an alliance in today's terms, the Cactus-IBP arrangement certainly shared some characteristics of modern day alliances. Under the agreement, instead of negotiating an average price for each pen of cattle, all sales were on an individual carcass merit basis. The arrangement was an exclusive marketing agreement that served as a long-term supply contract for IBP (Schroeder et al. 1998). The cattle feeder benefited from the agreement by securing premiums for higher quality carcasses and the packer benefited by having a continuous known supply of cattle.<sup>3</sup> As such, vertical cooperation by these two parties was beneficial to each.

Since then, numerous marketing arrangements and alliances have evolved. Their importance is apparent and their growth trend is noteworthy. Exactly how many beef alliances are operating and the number of cattle involved is not well documented. Two studies give insight into the extent of alliances and their recent growth.

First, a survey of cattle feeders located in Kansas, Texas, Nebraska, and Iowa conducted in early 2002 revealed that about 11% of respondents participated in some form of an alliance for at least some of their cattle in 1996 and this increased to 45% by 2001 (table 1) (Schroeder et al., 2002). By 2006, 55% of the respondents anticipated that they would market at least some of their fed cattle through an alliance. Alliances represented 8% of the fed cattle marketed in 1996, 27% in 2001, and this was expected to increase to 39% by 2006.

---

<sup>2</sup> The Cactus-IBP agreement was not entirely novel in that it had general characteristics similar to a profit-sharing joint venture between IBP and a cooperative of large cattle feeders in the Pacific Northwest in the mid-1970s.

<sup>3</sup> Packers realize significant cost savings when operating beef slaughter and processing plants near designed capacity. Anderson and Trapp estimated that increasing plant capacity utilization from 70 percent to 90 percent reduced plant killing and fabrication cost by an estimated \$16.20/head. The cost changes came from operating below average capacity over time, and from fluctuations in supply around the average operating level. They concluded that added costs of up to \$5 per head (up to a range of \$150 to \$200 million per year) are incurred with the level of slaughter variation present in the industry. Such sizeable cost savings serve as a major motivation for beef packers to develop non-price means such as contracts, marketing agreements, and alliances to better coordinate cattle flows into beef packing plants.

**Table 1. Feedlot Survey Respondent Participation in Marketing Agreements and Alliances**

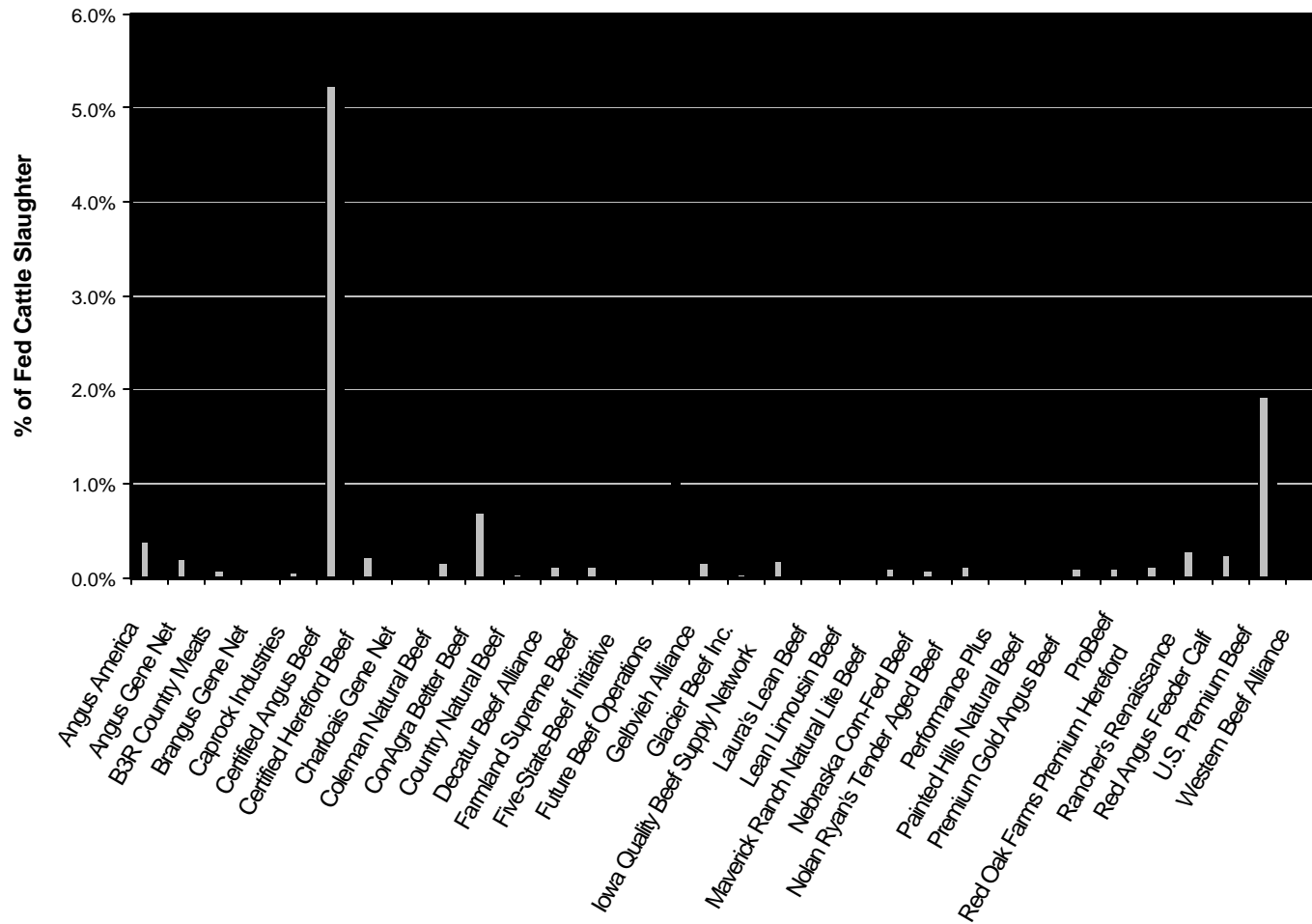
Marketing Method	Year		
	1996	2001	Expect in 2006
	(Percentage of Respondents Marketing at Least 1% of Fed Cattle using that Method)		
Agreement with No Alliance	25.1	33.7	37.4
Agreement with Alliance	11.3	45.2	55.3
Total Agreements	30.2	64.2	73.6
No Marketing Agreement	93.8	90.1	82.8
	(Respondent's Weighted-Average Marketed Weighted by 2001 Fed Cattle Marketings)		
Agreement with No Alliance	14.2	25.0	26.3
Agreement with Alliance	8.3	27.3	39.0
Total Agreements	22.5	52.3	65.3
No Marketing Agreement	77.5	47.7	34.7

Source: Schroeder et al. 2002

Further evidence of the extent of beef alliances was obtained from BEEF Magazine's *Alliance Yellow Pages* which reported information about 33 beef alliances received from a voluntary survey in 2000 and 2001 (Peck and Ishmael). In a year's time, alliance participation increased from 3.9 million head marketed in 2000 to 4.7 million head in 2001. As displayed in Figure 2, this participation represents a growth in the percent of fed cattle slaughtered by alliances from 10.7% in 2000 to 13.2% in 2001. The size of the reported alliances varies. In 2001, eight alliances marketed 0-25,000 head, seven marketed 25,000-50,000 head, four marketed 50,000-100,000 head, six marketed 100,000-200,000 head, and four marketed more than 200,000 head. Many alliances are growing in size. For example, only five alliances marketed over 100,000 head in 2000, but in 2001, ten alliances marketed over 100,000 head. It is difficult to determine how many alliances were started between the two periods because this was a voluntary survey. However, Cattle-Fax estimated that 60 beef alliances were operating in early 2002.

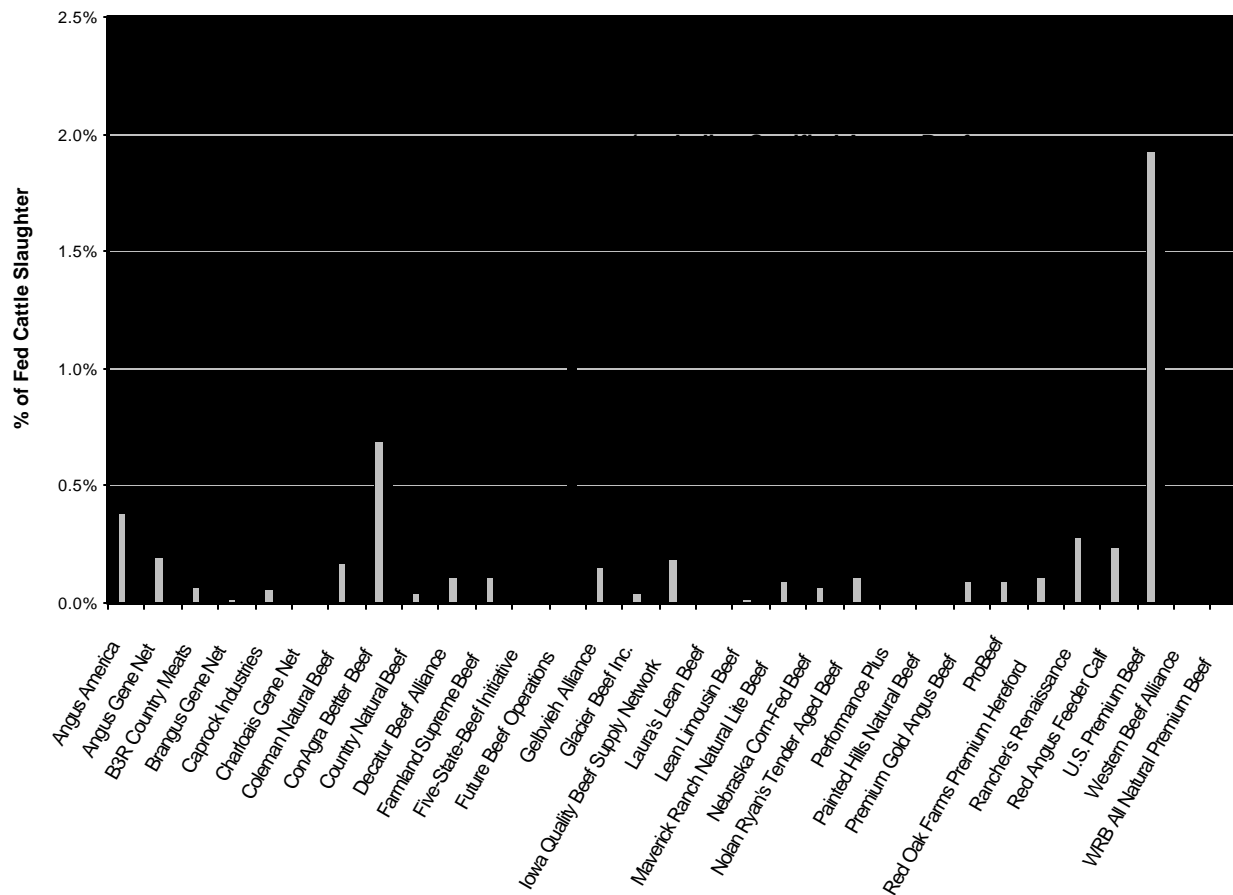
#### *Certified Angus Beef*

Interestingly, Certified Angus Beef (CAB) accounted for 5.2% and 5.7% of fed cattle slaughtered using alliances in 2000 and 2001, respectively. Certified Hereford Beef (CHB) accounted for less than 0.3% of fed cattle slaughter over the two years. Fed cattle marketed using alliances is reduced to 5.5% in 2000 and 7.5% in 2001 if CAB and CHB are excluded (figure 3). CAB was originated by the American Angus Association in 1978 with the goal of "identifying a quality, consistent, consumer-recognizable



Source: BEEF Magazine and LMIC

**Figure 2. Beef Alliance Participation (2000-2001)**



Source: BEEF Magazine and LMIC

**Figure 3. Beef Alliance Participation excluding Certified Angus Beef and Certified Hereford Beef (2000-2001)**

product (Ward and Hildebrand). CAB has a unique licensing agreement with feedlots, packers, distributors, and retail firms that allows CAB to easily preserve consistency and promote the CAB brand. Furthermore, cattle qualifying for CAB certification must first meet visual specifications and then may be certified if they meet carcass specifications (at least USDA average choice quality grade and USDA 3 yield grade). Together the licensing agreement and the certification process have been vital in building consumer confidence in the brand.

In CAB's early years, middle meats (about 20% of each carcass) were the most popular CAB cuts, but as brand confidence grew, more of the carcass (about 50% of each carcass in 1992) has been labeled and sold as CAB (Ward and Hildebrand). Consumers are also willing to pay premiums for CAB products (\$2.33 per pound for CAB steaks compared to a generic steak) (Feldkamp et al.). The growth in visually qualifying cattle and certifiable carcasses has been stimulated by the American Angus Association's supply development branch. This branch identifies producers of CAB cattle, promotes Angus carcass merit genetics, and directs producers to its licensed feedyards. As a result, CAB has spawned numerous relationships along the entire beef supply chain. Many of these relationships are with other established beef alliances which enroll CAB certifiable cattle. As such, double counting by the aforementioned study may inflate the number of cattle that alliances market.

How can CAB's governance structure be described? As discussed earlier, risk considerations often drive alliance formation decisions. Although CAB founders probably did not make firm design decisions based on performance and relational risk assumptions (Das and Teng), the theory is helpful in understanding their intentions in choosing such a licensing strategy. Das and Teng propose that the higher of the two risks will be the determining risk factor in firm design. CAB chose a licensing agreement which is a non-equity alliance. Their decision was probably based on their need for a steady flow of fed cattle, processing facilities, and marketing channels for producing and marketing a branded beef product. These requirements necessitated alignment with firms that could already perform these functions. Regardless of CAB's strategic direction, they would be taking on relational risk through this alignment. Performance risk probably became the determining factor in choosing between a joint venture and a licensing agreement. Das and Teng suggest firm's that are confident in the success of their product (perceive low relational risk) choose joint ventures and firm's that doubt the success of their product (perceive high relational risk), choose licensing agreements. As a result, CAB's uncertainty about the performance of their branded beef product coupled with their lack of production/marketing facilities may have led them to the non-equity alliance governance structure.

### *Rancher's Renaissance*

Alliances are also becoming more popular at the cow-calf level. BEEF Magazine's 2002 *Alliance Yellow Pages* identified an increase of more than 30% from 2000 to 2001 in the number of alliances that compensate cow-calf producers for meeting performance guidelines.

In 1997, a group of industry leaders involving cow-calf producers, feedlot owners, and a packer (Excel) developed a production and marketing system that would directly address industry coordination problems. The group formed a cooperative alliance called Rancher's Renaissance (RR). Each participant believed it had something to gain from cooperation. Cow-calf producers saw value in the information generated to improve genetics. Improving linkages with consumers and filling excess capacity with RR cattle was appealing to feedlots. RR's differentiated product and management of cattle supplies appealed to Excel. The cooperatives goals were to build trust along the value chain, share information, learn about consumers, capture value from providing higher quality end products, lower costs by increasing efficiency and decreasing ownership transfer, and equally share profits among all participants (Pearcy). In addition to these fundamental goals, the group valued ownership of its own brand of beef and perceived consumers to value "source verification" (information from birth to processing associated with each animal).

RR's governance structure models that of a cooperative which consists of 21 members, an executive committee, and a chief executive officer. The CEO manages daily operations and reports to the executive committee. RR's CEO resembles an alliance manager which acts as a mediator among alliance partners. The business model is based on reducing costs and sharing profits generated by improved coordination. Each participant passes his costs incurred to the cooperative and upon selling product the profit or loss is distributed amongst the partners. Some of the reasons for a cost-based approach are:

- ? Create a steady flow of cattle by giving producer's assurance that their expenses will be paid.
- ? Maximize cooperative profits, rather than individual profits, by encouraging partners to work in keeping costs low and generating high profits.

Participants committed to dividing profits based on capital and resource contribution to the cooperative in the following proportions: cow-calf producer (55%), feedlots (15%), and Excel (30%). Participants had incentives to collaborate to increase the overall return and likewise individual returns. RR, like many alliances, saw the potential for profit by aligning vertical partners from nearly all stages of the value chain. In theory, Rancher's Renaissance and other alliances build upon assumptions that will be profitable and beneficial. Because of the way alliances can potentially reduce costs and increase coordination, they are expected to continue to grow in importance. How well have alliances been able to put these theories into practice?

Consumer tastes, preferences, health concerns, and safety concerns are increasingly being addressed by alliances. Alliances are meeting these demands by producing and offering branded products to fit highly targeted consumer segments. Coleman Natural Beef saw an unfulfilled niche in the market for hormone free beef. It has aligned with over 700 individual ranches to market branded, hormone and implant-free beef with considerable success. Four alliances have received the USDA’s process verification certification to produce beef that appeals to consumers who are increasingly concerned about production and slaughter processes. Furthermore, alliances have formed to target leanness (Laura’s Lean Beef), tenderness (Nolan Ryan Tender Aged Beef), and consistency and quality (CAB).

**Likelihood of Success**

*Success Determinants*

Evaluating the success rate of alliances is a highly subjective task dependent on the individual needs of an alliance participant. Over time several beef alliances have been highly successful at accomplishing the needs of the beef industry as well as the goals of the firm and its participants. At the same time, others have failed. Overall, general alliances in business suffer from 60-70% failure rates (Speckman et al.; Day; and Accenture Consulting referenced by Gonzalez). What economic impact, specifically from a vertical coordination standpoint, have alliances made to the beef industry? What activities should alliances focus on to foster success? What have we learned from alliances that have survived and those that have not?

As discussed earlier, alliances emerged out of the need for vertical coordination along the beef production and marketing chain. As a result, one way to measure alliance success is to evaluate their ability to improve vertical coordination. In that regard, Ward and Estrada ranked 27 beef alliances based upon their contribution to further coordinating the industry. They designed their ranking system (Table 2) based upon hypothesized criteria about how each characteristic affected vertical coordination.

**Table 2. Ranking Criteria for Beef “Strategic Alliances”**

<b>Alliance Characteristic</b>	<b>Ranking Continuum</b>	
	<b>“High” Degree of Contribution to Vertical Coordination</b>	<b>“Low” Degree of Contribution to Vertical Coordination</b>
Stated Objectives	Long-Term Focus	Short-Term Focus
Stages of Coordination	Four Stages	One Stage
Commitment	Formal Agreement	Informal Agreement
Breed Requirements	Specified Breed	Unspecified Breed
Management Requirements	Extensive Specific Requirements	No Specific Requirement
Source Verification	Required	Not Required
Pricing Method	Linked to Retail Markets	Plant average or other
Branded Beef Production	Produced for a brand	Did not produce for a brand
Carcass Data	Interpreted into useable information	No carcass information provided

Source: Ward and Estrada

The majority of alliances studied ranked closer to the high side of the continuum in all characteristics except commitment, management requirements, and pricing method. Most alliances did not require a formal agreement like investment of capital, certifications, quantity quotas, or licensing agreements. Further, most alliances did not require specific management practices like restrictions on antibiotic use or grazing. An insignificant number of alliances priced cattle based on a retail market. Overall, most alliances were viewed as contributing to vertical coordination which is vital to the beef industry's future success.

### **Success Challenges**

Alliances are venturing into unexplored territory. Many such ventures face considerable uncertainty, involve sizeable investment, and have high expectations from their members. Despite these considerations, alliances must focus on coordination problems within their individual business and among their members. Individual alliance success, like that of the entire industry, hinges on the ability to improve coordination.

#### *Retail Product*

One of the greatest challenges in this regard is member ability to maintain volume promised to be delivered (Ishmael). The challenge of consistent volume maintenance at retail is complicated by seasonality, retail product specials, and marketing incentives. Alliances must be able to provide year-round product in sufficient volume to meet their customer needs. They require membership that has the physical cattle numbers to meet volume obligations. They also need diversity among producer members so that cattle are put on feed and harvested at all times of the year. Perhaps, most importantly, an alliance must convince its members that an individual's long-term best interest is served by committing their cattle to enrollment in the alliance. This may be difficult to accomplish without a formal commitment. Only about one-third of all alliances studied by Ward and Estrada required a legally binding obligation to supply cattle to the alliance. This poses a threat to an alliance's ability to maintain long-term relationships with retailers. As a result, this challenge presents a significant risk to alliance viability. Alliances that can effectively manage the dual threat of losing producer participation and losing retail cooler space increase their probability of success.

#### *Partner Commitment*

The importance of sound relationships among partners, especially retailers, is highlighted by the dawn and demise of Future Beef Operations (FBO). FBO designed a unique supply chain that owned its own processing facility and partnered with feedlots and a retailer (Safeway) to improve vertical coordination. Each of the partners contributed equity to start the endeavor and each had a vital role in FBO's success. One of FBO's earliest challenges was identifying a retailer that would commit to the vertically aligned system. Eventually Safeway agreed to join as FBO's exclusive retailer partner, but this early accomplishment proved to be one of FBO's foremost hindrances. The agreement provided Safeway with boxed beef product through a lucrative pricing agreement in return for Safeway's incurring of a specified level of both downside and upside risk in the system. Considering Safeway's large equity investment in FBO,

Safeway hypothetically had more to gain by continuing in the agreement, then by breaking it.

Unforeseen market fundamentals substantially reduced cattle feeding and slaughtering profitability in 2001 and 2002. The agreement forced Safeway to partially alleviate this downside volatility through capital payments of over \$30 million in less than a year's time (Close). Despite the agreement, Safeway no longer believed that it had more to gain by continuing as a partner in FBO than by operating independently. Safeway refused to make the payments and arbitration between FBO's partners became the leading concern. Ultimately, FBO's governance structure was not able to negotiate with Safeway. FBO, a startup business in dire need of operating cash flow and in the midst of market devastation, was not able to recover from the Safeway setback. The alliance failed.

What can be learned from this endeavor? First, successful alliances must provide real economic value to members. Second, loose formal agreements between alliance partners are vulnerable, so trust and commitment to the alliance goals by all partners is vital. Williamson's research supports the need for arbitration mechanisms when idiosyncratic investments and uncertainty are high. FBO and other beef alliance ventures would be well served to include these mechanisms in their governance structures. The FBO endeavor demonstrates how arbitration is vital to effectively deal with unforeseen changes in a risky industry, not to mention in new and vastly untested alliance agreements.

### *Dealing with Conflicts*

Insights into the success of an alliance can be drawn from the case of Rancher's Renaissance. Over time, some of its initial goals were questioned by participants. Cow-calf producers valued source verification because it linked performance with genetics. Initially Excel was willing to concede the increased costs with tracking animals throughout life. However, Excel soon realized that such information was not useful to consumers and wanted to instead ensure only process verification. Excel and the feedlots began to question the allocation of profits, insisting that their contributions to total value were not reflected in the portion of profits they received. These problems illustrate an alliance's need for commitment to the whole. Furthermore, it demonstrates the conflicts that arise when alliance participants have mutual interest in the success of the alliance without having mutual ownership of one another's firms.

Whipple and Frankel identify four development levels for successful alliances: (1) *Alliance Conceptualization* identifies the need for an alliance, (2) *Alliance Pursuance* confirms the need and sets up criteria for choosing partners, (3) *Alliance Conformation* focuses on picking partners and determining goals together, (4) *Alliance Implementation/Continuity* involves evaluating and modifying the alliance over time. Each level is critical to the success of an alliance. Many indications show that RR has unconsciously followed these design levels closely, and like many other alliances, is working through the *Implementation/Continuity* stage. Furthermore, the presence and

mediator role of RR's CEO as alliance manager is critical to the cooperative's success. Speckman et al. found that successful alliances are supervised by an alliance manager.

Ranchers Renaissance must also consider the "strategic effectiveness factors" addressed by Whipple and Frankel. These factors are (1) Length of Alliance Relationship, (2) Alliance Management, (3) Actual Net Bene fit, (4) Partner Match, and (5) Partner Coordination. The first factor says that the longer the alliance remains intact the more likely it is to further succeed. To date, RR is still functioning. Secondly, RR partners must continue to make equal contributions to the cooperative. The third factor highlights RR's need to generate a reasonable profit for all partners. As RR matures the fourth factor, ability to share vital information between partners, becomes important. This factor includes sharing carcass data and using it effectively to generate a larger alliance profit. Finally, RR must prove to its partners that they are well suited for each other and that each has a personal need for the other partners.

#### *Other Issues*

Beef industry alliances face further challenges in other areas. Current marketing alternatives are one of those challenges. Alliances must prove to their membership that their mechanism for pricing cattle is best for the producer over the long-term. If they fail in this task, non-obligated members (as is the case with the majority of alliances) will turn to alternative pricing systems. This challenge requires alliances to understand the goals of their marketing/procurement system. What base price to use for pricing? What kinds of premiums and discounts to offer to send appropriate signals to producers? What pricing system pays producers the most for their cattle while not compromising margins for processor and retailer members? Methods for valuing cattle based on the value they generate and using strategic mechanisms to preserve the long-term viability of all alliance members must be balanced.

What activities have successful alliances concentrated on? Alliances that have enjoyed success are those that have had sound business plans, were flexible in adapting those business plans to changing market conditions, and above all were providing economic value to members and customers. Furthermore, in the early stages of their existence successful alliances had realistic goals, adequate capital to maintain operations, equal member commitment to the alliance mission, and visionary leadership. As successful alliances took shape they pursued financial considerations for members that took on greater risk, an incentive system to reward performance and encourage innovation, sufficient and continuous supplies of cattle to satisfy customers, and provision of detailed information and analysis to encourage improvements over time. These activities are all critical components to ensuring long run success of an alliance. If any of these attributes are not well developed or the necessary commitment of *all* parties is not present, alliances will likely fail.

Beef industry participants that are considering entering into an alliance should carefully assess the following checklist to determine whether the alliance is right for them:

- ? Are the alliance's short-run and long-run goals consistent with your own?

- ? Do all vertical members share the same goals for the alliance?
- ? Is the alliance business plan sound? Are the objectives realistic? Is the method to accomplish these objectives likely to succeed?
- ? Is the alliance financially sound?
- ? Is the alliance managing for and set up to handle catastrophic risks (for example, how are they set up to deal with a food safety concern)?
- ? What is your commitment (monetary, risk exposure, legal accountability, cattle numbers, etc.)?
- ? Is your participation in the alliance going to be beneficial to you, the alliance, and its customers?
- ? What are other alliance members' perceptions of the alliance?
- ? What are most likely threats to the success of the alliance?
- ? How is success of the alliance being measured?
- ? Is the leadership of the alliance flexible? Are they visionary? Are they committed to the alliance's success for the long run?
- ? Can the alliance effectively adapt to changing market conditions and customer demands over time?
- ? Is this alliance consistent with your comparative advantage?

Affirmation that an alliance is dealing effectively with all the issues noted in this checklist does not guarantee success of the alliance nor producer satisfaction with the alliance. However, if any of these areas raise concerns, businesses should be cautious about joining the particular alliance.

### **Future of Alliances**

The future of alliances will depend critically upon how successful they are at accomplishing their goals efficiently. If alliances can better coordinate beef production and marketing, effectively send value signals to those with the opportunity to influence value, and maintain incentives for innovation among alliance members more effectively than other forms of business arrangements, they will continue to grow. Economics will drive long run business arrangements much like it does the structure of the industry.

Consumers place more confidence in branded products that have integrity in their claims, are consistently high quality, and offer the consumer the specific product

characteristics that they want. Short of vertical integration alliances, where participants at the various stages of the industry are partners with each other, may be the most effective way to coordinate production and marketing activities. The majority of the beef industry is not likely to follow the chicken sector model of complete vertical ownership by a small number of firms for a variety of reasons. Therefore, alliances appear to be the way for the industry to have private ownership of various stages but also have improved vertical coordination.

## References

- Anderson, J.D. and J.N. Trapp. *Estimated Value of Non-Price Vertical Coordination in the Fed Cattle Market*. Research Bulletin 2-99, Research Institute on Livestock Pricing, Virginia Tech, February 1999.
- Barkema, A. "Reaching Consumers in the Twenty-First Century: The Short Way Around the Barn." *American Journal of Agricultural Economics*. 75(1993):1126-1131.
- Bartle, S.J., R.L. Preston, and M.F. Miller. "Dietary Energy Source and Density: Effects of Roughage Source, Roughage Equivalent, Tallow Level, and Steer Type on Feedlot Performance and Carcass Characteristics." *Journal of Animal Science* 72(1994):1943-1953.
- Blois, K.J. "Vertical Quasi-Integration." *Journal of Industrial Economics*. 20(1972):253-272.
- Brandt, R.T., Jr., G.L. Kuhl, R.E. Campbell, C.L. Kastner, and S.L. Stroda. "Effects of Steam-Flaked Sorghum Grain or Corn and Supplemental Fat on Feedlot Performance, Carcass Traits, Longissimus Composition, and Sensory Properties of Steers." *Journal of Animal Science* 70(1992):343-348.
- Cattle-Fax. *The Changing Face of the Beef Industry*. Special Edition Industry Structure. January 2002.
- Close, D. Former Assistant Vice-President of Cattle Operations, Future Beef Operations, LLC. Personal conversation, April 2003.
- Cozzarin, B.P. P.J. Barry. "Organizational Structure in Agricultural Production Alliances." *International Food and Agribusiness Management Review*. 1(1998):149-165.
- Das, T.K. and B.S. Teng. "Risk Types and Inter-Firm Alliance Structures." *Journal of Management Studies*. 33(1996):827-843.
- Day, G.S. "Advantageous Alliances." *Journal of Academy of Marketing Science* 23(Fall 1995):297-300.
- Ertel, D. "Alliance Management: A Blueprint for Success." *Financial Executive* 17(2001):36-40.
- Feldkamp, T., T. Schroeder, and J. Lusk. "Consumer Valuation of Steaks with Different Quality Attributes." In *Cattlemen's Day 2003*, Kansas State University Agricultural Experiment Station and Cooperative Extension Service, Report of Progress 908, March 2003, pp. 1-4.
- Gonzalez, M. "Strategic Alliances." *Ivey Business Journal* 66(2001):47-53.

- Hudson, W.T. and W.D. Purcell. "Risk Sharing and Compensation Guides for Managers and Members of Vertical Beef Alliances." Research Bulletin 1-2001, Research Institute on Livestock Pricing, Virginia Tech, Blacksburg, VA. August 2001.
- Ishmael, Wes. "2002 BEEF Alliance Yellow Pages." BEEF Magazine. August 2002.
- Jensen, M. and W. Meckling. "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure." *Journal of Financial Economics* 3(1976):305-306.
- Koohmaraie, M. "The Biological Basis of Meat Tenderness and Potential Genetic Approaches for its Control and Prediction." Unpublished working paper, U.S. Meat Animal Research Center, Clay Center, NE, 1996.
- Livestock Marketing Information Center (LMIC). Englewood, CO.
- Mahoney, J.T. "The Choice of Organizational Form: Vertical Financial Ownership Versus Other Methods of Vertical Integration." *Strategic Management Journal*. 13(1992):559-584.
- Miller, M.F., C.R. Kerth, J.W. Wise, J.L. Lansdell, J.E. Stowell, and C.B. Ramsey. "Slaughter Plant Location, USDA Quality Grade, External Fat Thickness, and Aging Time Effects on Sensory Characteristics of Beef Loin Strip Steak." *Journal of Animal Science* 75(1997):662-667.
- National Cattlemen's Association. "Executive Summary: Strategic Alliances Field Study." 1993.
- Purcell, W.D. "A Primer on Beef Demand." Research Institute on Livestock Pricing, Virginia Tech University, Blacksburg, VA, Research Bulletin, April 1998.
- Purcell, W.D. and J. Lusk. Beef Demand Chapter in this Book.
- Pearcy, Ben. "Ranchers Renaissance." Harvard Business School. November 21, 1999. N9-900-008. Available: [www.hbsp.harvard.edu](http://www.hbsp.harvard.edu)
- Peck, Clint. "2001 BEEF Alliance Yellow Pages." BEEF Magazine. August 2001.
- Schroeder, T.C. and D.R. Mark. "How Can the Beef Industry Recapture Lost Consumer Demand?" Paper presented at the Western Section American Society of Animal Sciences Symposium, Provo UT, June 9, 1999.
- Schroeder, T.C., T.L. Marsh, and J. Mintert. Beef Demand Determinants. Report prepared for the Beef Board Joint Evaluation Advisory Committee, January 2000.
- Schroeder, T.C., C.E. Ward, J. Lawrence, and D.M. Feuz. *Fed Cattle Marketing Trends and Concerns: Cattle Feeder Survey Results*. Kansas State University Agricultural Experiment Station and Cooperative Extension Service, MF-2561, June 2002.
- Schroeder, T.C., C.E. Ward, J. Mintert, and D.S. Peel. Beef Industry Price Discovery: A Look Ahead. Research Bulletin 1-98, Research Institute on Livestock Pricing, Virginia Tech, Blacksburg, VA. March 1998.
- Schroeder, T.C. and J.L. Graff. "Estimated Value of Increased Pricing Accuracy in Fed Cattle." *Review of Agricultural Economics* 22(2000):89-101.
- Spekman, R.E., L.A. Isabella, T.C. MacAvoy, and T. Forbes. "Creating Strategic Alliances which Endure." *Long Range Planning*. 29(1996):346-57,
- Sporleder, T.L. "Managerial Economics of Vertically Coordinated Agricultural Firms." *American Journal of Agricultural Economics*. 74(1992):1226-1231
- Van Koevinger, M.T. ,D.R. Gill, F.N. Owens, H.G. Dolezal, and C.A. Strasia. "Effect of Time on Feed on Performance of Feedlot Steers, Carcass Characteristics, and Tenderness and Composition of Longissimus Muscles" *Journal of Animal Science* 73(1995):21-28.

- Ward, C.E. and J.L. Hildebrand. "A Comparison of the Certified Lamb and Certified Angus Beef Programs." *Sheep & Goat Research Journal*. 10(1994):173-177.
- Ward, C.E. and T.L. Estrada. "Vertical Coordination and Beef Industry Alliances." Visions. Department of Agricultural Economics. Oklahoma State University. 72(1999):16-21.
- Whipple, J.M. and R. Frankel. "Strategic Alliance Success Factors." *Journal of Supply Chain Management* 36(Summer 2000):21-30.
- Williamson, O.E. "Transaction-Cost Economics: The Governance of Contractual Relations." *Journal of Law and Economics*. 22(1979):233-261.
- Young, L.M., and J.E. Hobbs. "Vertical Linkages in Agri-Food Supply Chains: Changing Roles for Producers, Commodity Groups, and Government Policy." *Review of Agricultural Economics*. 25(2002):428-441