Strategic Alliances in U.S. Branded Beef Programs[1]

Abstract

In this paper, we combine concepts from organizational economics to examine supply chain alliances formed to market branded beef products. To illustrate application of the framework, we examine three different types of alliances. We conclude that measuring costs associated with quality attributes have an important role in alliance structure.

Keywords: Strategic alliances, branded beef, transaction cost economics, agency theory, resource-based theory.

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Strategic Alliances in U.S. Branded Beef Programs

Emerging technologies and marketing practices appear to be providing beef marketers with new opportunities to differentiate their beef products. Many of the most important attributes to consumers of beef such as flavor, tenderness, nutrition, and safety are not apparent to consumers until the product is eaten. Moreover, emerging consumer concerns, such as the humane treatment of farm animals and environmentally friendly production practices, are impossible to detect even after consumption. This can lead to market failure that may prevent consumers and producers from engaging in what would otherwise be a mutually beneficial transaction. The use of brand names and firm reputation to assure food product performance is one private solution to this market failure.

To capture premiums associated with branded products, strategic alliances have proliferated to provide the needed quality standards. Twenty-eight percent more cattle were marketed through alliances in 2005 compared to 2001. Research efforts on vertical alliances are beginning to grow, and additional work is needed to understand their function and implications.

Previous research has provided descriptions of branded beef alliances or applied a single theoretical paradigm to examine methods of coordinating supply chain alliances. The variety of alliance structures found, suggest that alliances may serve a number of roles and may be explained by a number of different factors. Consequently, a conceptual framework that combines different theoretical paradigms appears warranted.

The major objective of this research is to evaluate the growing presence of U.S. beef strategic alliances formed to increase returns to supply chain participants by producing branded beef products. What advantages do strategic alliances offer, and what factors account for the diversity of alliance structures?

We begin with a discussion of beef quality and characteristics preferred by consumers. Next, we provide an overview of current manufacturer or retail branded beef programs in existence in the United States, which continue to evolve. This will illustrate how branded beef programs have developed with the goal of satisfying consumer preferences and increasing returns to participants. We then conduct a more in depth case study analysis of three companies, one from each of the most common classes of strategic alliances: brand licensing programs, marketing alliances, and new-generation cooperatives. For each, we examine program requirements, compensation methods, and coordinating arrangements that support the alliance (e.g., contracts, licensing agreements, certification). We employ elements of the organizational economics literature, including transaction costs economics (TCE), agency theory, and resource-based theory to examine the role of alliances in each of our three cases.

Consumer Preferences for Beef

Between 1975 and 1999, demand for beef fell by 66 percent, and its share of meat consumption fell from 48 percent to 32 percent. Along with increasingly health-conscious consumers, poor beef quality relative to other meats has also been suggested as a reason for the decline. At the same time, evidence showed that consumers were willing to pay substantial premiums for improved beef quality.

Flavor, juiciness, and tenderness characteristics combine to determine whether the consumer has a good or a bad eating experience. Consumers consider tenderness the most important component of meat quality (Koohmarie et al). Because an estimated one in four steaks is rated as tough (National Beef Quality Audit 1992), improving tenderness in beef has become a major concern in the beef industry. A number of studies have shown that consumers are willing to pay a premium for more tender beef. Lusk et al, for instance, found that over half the participants in one study would be willing to pay $1.84 a pound more for "guaranteed tender" over "probably tough" ribeye steaks. Loureiro and Umberger (2004) found that consumers were willing to pay a $1.14 per pound premium for guaranteed tender steaks.

In addition to palatability, consumers are also interested in the healthfulness and safety of the meat products they consume. While marbling has been discussed as a desirable trait in terms of flavor and juiciness, many consumers find the increased fat content associated with marbling undesirable. Killinger et al (2004) found that most consumers in Chicago (86.7%) and San Francisco (67%) preferred steaks with low marbling when conducting a visual appraisal of beef products. This study seems to suggest that consumers are likely to systematically select beef products that may be less palatable.

The safety of the meat products is a prime concern to beef consumers. Many consumers, for instance, are concerned about the potential adverse health effects of growth hormones given to livestock. Lusk, et al (2003) show that US consumers were willing to pay large premiums for "hormone free" beef and beef produced using only genetically modified feeds. Loureiro and Umberger (2004) found that consumers were willing to pay significant premiums for assurance

that beef has been food safety inspected and that the product can be traced back to the farm of origin.

Country of origin verification has gained interest in the US in recent years. A survey of consumers in Chicago and Denver by Umberger et al (2003) found that most consumers were willing to pay significant premiums for beef guaranteed to be "Born and Raised in the USA". The consumers indicated a variety of reasons for their willingness to pay premiums for the guaranteed US product. Among the reasons cited was a desire to support US farmers and a belief that US beef was of higher quality.

Background Information on Beef Strategic Alliances

Vertical coordination refers to all of the ways that resources are transferred between between economic stages of production. These include open, or spot, markets, contract production, strategic alliances, and vertical integration. Trading on spot markets requires no commitments before the product is produced, and prices coordinate resource transfer. Contract production involves commitments to sell a product prior to completing production at a predetermined formula price. Vertical integration involves combining two or more stages under one firm, which administers resources across stages.

Strategic alliances involve exchange relationships whereby firms share the risks and benefits of mutually defined objectives. They allow transaction partners to maintain their independence, while controlling the flow of resources across stages. Strategic alliances can be further delineated into formal and informal alliances (Brocklebank and Hobbs). Formal alliances, also referred to as new generation cooperatives, typically require exchange partners to enter into

contracts and make a financial investment. They are typically producer owned with the primary goal of enhancing information flows to members, reducing production costs, and increasing profits.

Informal alliances may or may not require use of a contract, and do not require an initial investment to participate. There are two types of informal alliances; brand licensing and marketing alliances. Brand licensing programs typically require that cattle meet certain genetic requirements specific to a particular breed, and involves a branded product that uses the breed as a proxy for quality. They tend to be loosely coordinated with the only requirements being that participants are certified to sell beef under the program name and that the breed of cattle can be verified. Marketing alliances are owned by operations that purchase finished cattle from cow/calf producers and/or feedlots through a grid pricing system and that are subject to specific program requirements. Informal alliances rely more heavily on trust between alliance partners, as opposed to equity investments in new generation cooperatives that create incentives for long-term relationships. While considerable variation in organizational structure can exist within each classification, it provides a useful format for examining the factors influencing alliance formation (table 1).

Beef Magazine'*s* Yellow Pages provides the most comprehensive public listing of industry alliances (Ishmael). A comparison of annual surveys in 2005 versus 2001 reveals a slight decline in the total number listed, from 36 to 33. However, the total number of cattle produced by alliances increased by 28 percent, from 1.99 million to 2.5 million. There remains considerable variation across alliances in allowable carcass weights, while the range in premiums has grown

Table 1. General defining characteristics of alliance types	
Type	Defining characteristics
Brand licensing	• Loose contract arrangements with certification being the only obligation. • Must meet certain genetic requirements (Often breed based). • Producers may choose to sell all or no cattle through the program. • Generally, cattle sold on a yield or quality grid. • Centered around a branded product that conveys quality standard to consumers.
Marketing alliance (specialty product marketer)	• Similar to brand licensing, but different in structure. • Production requirements specified. • Yield-based grid. • Further screening process (e.g., ultrasound, quality-based grid). • Value added through brand identification while creating a specialty niche.
New generation cooperatives	• Producer buys or leases stock shares in company. • Producer rights and obligations specified (e.g., number of head per share to be sold through cooperative). • Combined grid based on yield and quality grades. • Dividend or bonus payments to producers. • Cooperative-marketed brand.
Sources: Anton; Brocklebank and Hobbs.	

from $10-$60 per head in 2001 to $5-$109 per head in 2005. A greater number of alliances required specific management practices in addition to carcass specifications. In 2005, 92 percent required source verification, weaning, preconditioning, or natural beef management practices (i.e., typically prohibit use of antibiotics and growth hormones), compared to 67 percent in 2001. Preconditioning, is a vaccination, nutrition, and management program designed to prepare young cattle for the stresses associated with weaning and shipment to a backgrounding yard or feedlot. Certain buyers are willing to pay premiums for preconditioned calves because of reduced sickness, improved performance, and enhanced beef product quality. One program, Western Grasslands Beef, required "Born & Raised in the USA" certification.

Theoretical Framework for Alliance Formation and Alliance Types

The principle theoretical approach for understanding when alliances form is *transaction cost economics* (TCE) (Eisenhardt and Schoonhoven). TCE views vertical coordination arrangements (e.g., contracts, alliances, vertical integration) mainly as a means of reducing transaction costs, which include costs of drafting, negotiating, safeguarding an agreement, and haggling and monitoring costs after the agreement has been made. One source of transaction costs are those associated with safeguarding investments in assets specific to the transaction (i.e., relationship-specific assets). Investments in relationship-specific assets, such as particular genetics, limit producer options for selling cattle elsewhere. Hence, they become subject to opportunistic behavior by the processor because the assets have considerably less value in their next-best use. This leads to transaction costs associated with buyer actions as they seek concessions from sellers, and sellers act to safeguard against such opportunistic behavior. Similarly, brand name capital may be considered an intangible asset that may leave the owner susceptible to opportunistic behavior by input providers if specific inputs are tied to the brand. With investments in relationship-specific assets, parties will enter into arrangements to protect against opportunistic behavior.

Another class of transaction costs is measurement, or information, costs.[2] These include costs of searching for information about buyers or sellers in the market, inspecting goods prior to purchase, and assigning a price. Measuring costs may be especially significant when transactions are characterized by asymmetric information, where one party has an information advantage over the other party. For example, the producer may have more information than the

[2]As defined by Barzel, "measurement is the quantification of information."

processor about a difficult-to-measure quality attribute, such as food safety practices and animal welfare standards. Likewise, the processor has more information regarding its own contributions to food safety, environmental preservation, and animal welfare practices that may be associated with a branded product. This suggests that the method of vertical coordination may be influenced by efforts to reduce measuring costs that are associated with assuring a closer correspondence between product value and price, or actions and rewards (Barzel, 1982).

Another branch of the industrial organization literature, *agency theory*, attempts to determine the specific compensation features that align incentives of the principal (alliance manager) and agent (alliance member), where the principal is the controlling authority and the agent acts for the principal (Eisenhardt, 1989). Broadly speaking, cooperative behavior between the principal and agent is viewed as a contracting problem between self-interested individuals with different goals and risk preferences.

In cases of asymmetric information about the quality of beef, where the packer is unaware of actions taken by the producer, two options are available to limit moral hazard (Eisenhardt, 1989). First, producers may be rewarded based, at least partially, on outcomes of their behavior (*outcome-oriented*). Second, the processor may invest in information about producer behavior, such as provisions for third party monitoring of sellers, documents to justify activities performed, and other means of increasing information disclosure (*behavior-oriented*).

The optimal performance evaluation strategy (behavior-oriented versus outcome-oriented) will depend on the ability to measure quality outcomes and related inputs. When quality outcomes

are difficult to measure or difficult to measure in a reasonable amount of time, behavior-oriented contracts will become more attractive. Behavior-oriented contracts are also more likely if producer activities can be easily defined and evaluated, which makes it easier to specify appropriate producer behavior in advance. In this case, the production process is referred to as highly *task programmable* (Eisenhardt, 1989).

Given the distinguishing features of each method of vertical coordination, their use can be matched to characteristics of the transaction in a discriminating way (table 2). The ultimate choice of vertical coordination method will depend on a combination of these characteristics. Investments in specific assets leave firms vulnerable to opportunistic behavior if selling on the spot market. As asset specificity increases, within a specific range, alliances offering greater safeguards are expected, ceteris paribus. Brand licensing offers some safeguards for low levels of asset specificity compared to spot markets via loose contractual arrangements and specification of required actions. As assets become more specific, marketing alliances provide added protections through more specific production requirements and screening processes. For highly specific assets, new generation cooperatives safeguard investments by requiring equity investments in the program that encourage long-term relationships. Formal contract requirements also provide protections by delineating producer rights and obligations.

In cases of information asymmetry regarding beef quality attributes, new generation cooperatives provide advantages over less formal alliance forms through detailed program requirements and monitoring efforts. Security features to mitigate moral hazard may also be employed, such as formal contracts and provisions for third party monitoring to ensure compliance. Because

Table 2. Relationship between organizational arrangements and transaction characteristics.					
	Organizational forms				
Attributes	Spot markets	Brand licensing	Marketing alliance	Formal alliance	Vertical integration
Asset specificity	None	Low	Intermediate	High	High
Information asymmetry	No	No	No	Yes	Yes
Quality variability	No	Yes	Yes	Yes	Yes
Source: Adapted from Brocklebank and Hobbs.					

members are participants and can readily monitor program compliance, there is also more transparency in production activities (Brocklebank and Hobbs). As part owners and beneficiaries of its success, incentives to refrain from nonperformance are enhanced.

Given variability in the final beef quality attributes, the price received may not be easily predicted (Brocklebank and Hobbs). The price received by a seller is uncertain when tenderness and/or leanness attributes are provided and grid-based pricing systems are used. Even if a grid pricing system is implemented, the price paid to cow-calf producers and cattle feeders will not be known until after final processing is complete. Sellers will incur measuring costs to reduce price uncertainty associated with incomplete information on quality. As price uncertainty increases, it is expected that methods of vertical coordination will be entered to reduce the uncertainty and associated transaction costs. Joining an alliance can reduce these costs by increasing cow-calf operators and feedlots access to information and their ability to access markets with higher prices. In addition, by entering an alliance, producer monitoring costs to ensure accurate grading may be reduced. This is because processors have an incentive to maintain a positive relationship with producers given the benefits it receives from a stable supply of high quality cattle (Brocklebank and Hobbs).

Finally, the *resource-based view* suggests that firms will combine resources in an alliance when returns from the alliance exceed returns from their separately held resource portfolios. To the extent that TCE fails to capture the strategic factors that lead firms to enter strategic alliances, the resource-based view may provide a more enlightened explanation of alliance formation (Eisenhardt and Schoonhoven). Firms in vulnerable strategic positions are more likely to cooperate with other firms through the formation of strategic alliances. Several factors affect the vulnerability of a firm's strategic position. First, in markets with a large *number of competitors*, profits are stressed and survival is threatened. Strategic alliances can improve a firm's strategic position by providing resources that enable them to share risks and costs, and ensure more even and predictable resource flows. They can also help give the firm credibility by providing visibility and signaling a higher status, which helps to distinguish firms in crowded markets.

Second, *market stage* affects strategic position. Emergent-stage markets are small, new, and characterized by lack of product clarity. Alliances can improve strategic position in emergent markets by providing financial resources to enable cost and risk-sharing with other firms, and by legitimizing a new market.

Third, strategic position is affected by *firm strategy*, including degree of innovation. An alliance partner can improve the strategic position of a firm with a pioneering strategy by enabling firms to concentrate resources on developing a highly innovative strategy, while leveraging the resources of the partner in other functions. Firms with less innovative strategies are less likely to need alliances because the time and resources needed are generally less substantial and more certain.

Case Study Applications[3]

In this section we shed light on the operation and structure of supply chain alliances that satisfy consumer preferences for branded beef products and reduce dependence on commodity production. How do quality measuring costs, incentive alignment goals, relationship-specific investments, and strategic positioning affect alliance formation and structure?

Given the lack of detailed aggregate data, and the potential for generating more in depth information on alliance structure and operations, we implement case study methods.[4] In particular, we choose one company from each type of alliance structure; Certified Angus Beef (brand licensing), Nolan Ryan's Tender Aged Beef (marketing alliance), and Ranchers Renaissance (new generation cooperative).

The Certified Angus Beef (CAB) brand began in 1978 and is the oldest and largest brand, growing by about 30 percent per year. It operates as a division of the American Angus Association, which is composed of Angus breeders. The goal of the program is to produce high quality, tender, and flavorful beef. Standard USDA grades are used to price CAB beef, and USDA inspectors certify the program. Premiums based on the choice/select grade, plus a premium (Ishmael). Cattle must be at least 51 percent black-hided, along with 8 further carcass specifications. The CAB program does not own cattle or beef at any stage of production or

[3]Information on the Certified Angus Beef program and Ranchers Renaissance was obtained from Brocklebank and Hobbs. We thank Charlie Bradbury for input on the Nolan Ryan program.
[4]Alliances can be more broadly classified as a "hybrid" arrangement that lies between spot markets and vertical integration in incentive intensity, adaptability, and bureaucratic costs (Masten). Masten concludes that given the diversity of hybrid forms that exist, factors that lead to their adoption and design are also diverse and, therefore, should be analyzed on a case-by-case

processing. The program sells licenses to processors, distributors, retailers, and restaurants to harvest fabricate, and sell CAB beef.

The main production requirements relate to breed, which is visible during the farm-feedlot production process and initial stages of processing. There are no long-term commitments on the part of cow-calf producers and feedlots, outside of producing cattle with the required breed and carcass quality characteristics. Program requirements are broad enough that a large supply of cattle is more readily available without formal procurement arrangements. Entry into CAB is easier than programs with more stringent production and quality requirements. This suggests greater variance in the quality of cattle in the program compared to other branding programs.

Nolan Ryan All Natural Tender Aged Beef was developed by Beefmaster Cattleman, L.P. The company began in 2001, and is a limited partnership with investors including cattle producers, one of which is spokesperson Nolan Ryan. The company began with the goal of creating a branded beef marketing company that would promote Brahman influence cattle. The product developed to meet those needs was Nolan Ryan All Natural Tender Aged Beef, which carries a product satisfaction guarantee. Nolan Ryan Beef products are from Texas cattle producers and available only through contracted feed yards. Contract requirements for licensed feed yards include added vitamin E to improve meat quality, and no growth hormones or antibiotics. There are also mandated levels of electronic stimulation that are required for accepted carcasses, which have been proven to increase tenderness. Nolan Ryan beef carcasses are selected using the "Smart Machine Vision Beef Cam," which uses a scanning technology to identify carcasses that

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basis. If so, this would suggest a more prominent role for case study methodology in the analysis

contain tender characteristics, while also meeting other standards set by the program. Other product characteristics include limits to Yield grade 1 and 2, and carcasses weight specifications. Nolan Ryan quality restrictions create acceptance levels that range from 10 to 40 percent, which creates definite variation in weekly supply. Another characteristic of Nolan Ryan Beef is that ownership is maintained to ensure correct aging, and products are sold to retailers after a minimum of 14 days. The product also includes third party certification from USDA, which is not the case for by all marketing alliances.

Ranchers Renaissance is a new generation cooperative owned by ranchers. The program has grown by 30 percent from 2001 to 2003, and involves partnerships between ranchers, feeders, a processor (Excel), and retailers. The program goal is to better understand consumers, lower costs, share information, improve quality, and share added value created by the program. The cooperative does not own an exclusive brand name label, but products are sold under several brand labels including Harris Teeter Rancher, Sobey's Select, and Safeway's Angus Ranchers Reserve. The branded products guarantee consistency, tenderness, and flavor. There are 23 quality control points verifying genetics, source, production, and processing procedures. Feed programs have been implemented to provide consumers with a consistently tender product. Third party verification is used to monitor program compliance and ear tags are used to collect data that is shared with all stages of the vertical chain, but USDA does not certify the program.

To produce cattle under the program, membership fees are required which depend on the number of cattle marketed. High volume members pay a one-time entry fee that is higher than that

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of supply chain alliances.

required for members marketing lower volumes. New members are screened to ensure that their operations will fit the program and that they are willing to provide a long-term commitment. Their operations are also audited by a third party to ensure compliance with program standards and regulations. Annual inspections of operations of ranchers, feedlots, and packers are also conducted.

Ranchers are required to market a minimum number of cattle in the program based on a rolling 3-year average of past commitments. Feedlots must guarantee feeding space for a certain number of Ranchers Renaissance cattle, and pay an initial entry fee similar to cow-calf producers. Contracts between feedlots and Excel ensure a stable supply of cattle for processing. A grid-pricing system is used to reward supply chain partners, with premiums based on the quality of the end product.

Table 3 summarizes our perception of transaction characteristics associated with each of the alliances. A brand licensing program is sufficient to coordinate the production of CAB beef. A small degree of asset specificity likely exists through investments in particular genetics and investments in brand name capital. Studies have shown that consumers would be willing to pay an average premium of $2.33/lb for CAB beef compared to generic beef, which translates into fed cattle premiums of $2-5 per cwt. The branded program should not have problems finding adequate supplies for its brand, given the broad nature of program requirements. Information asymmetry does not exist because the breed requirements are readily visible, and so easily measured. The “Angus” name serves as a proxy for quality in the mind of consumers, which allows for a program with flexible input requirements and a less formal alliance. Price

Table 3. Variables associated with transaction cost economics and agency theory explanations of alliances.			
	Transaction characteristics		
Company	Asset specificity	Information asymmetry	Quality variability
Certified Angus Beef	Low	None	Yes
Nolan Ryan	Intermediate	Yes	Yes
Ranchers Renaissance	Low/intermediate	Yes	Yes

uncertainty associated with variation in quality can be reduced compared to sales on the spot market by paying premiums through the identification of acceptable animals in a value-based marketing system.

Some degree of asset specificity exists in the Nolan Ryan brand name, as cattle from the program go exclusively to the Nolan Ryan brand. Information asymmetry related to several quality attributes are introduced along the supply chain. Evidence suggests that beef from cattle with a high percentage Brahman parentage has lower marbling and is less tender on average than beef from other breeds. Hence, additional steps are taken to differentiate and improve the quality of beef. At the producer/processor interface, special feeding programs and absence of antibiotics and hormones are known to the producer, but not the packer. At the processor/retailer interface, carcass stimulation and aging are characteristics known to the processor, but not the retailer. Contracts and third-party certification help to reduce measuring costs by disclosing information on program compliance. Price uncertainty related to quality variability is introduced by the scanning technology used to evaluate beef tenderness. Producers are uncertain as to how many of their cattle will be accepted into the program and the final price received.

In the Ranchers Renaissance alliance, low to intermediate levels of asset specificity likely exist through investments in brand name capital that guarantee quality, but are not tied to a single brand. The initial entry fee required for program participation and screening of new members help to ensure producer commitment to the program. Contract arrangements between feedlots and Excel may also safeguard against opportunistic behavior. Information asymmetry exists in relation to quality attributes that are not easily measured, but are controlled by producers in the form of genetics, source, and feeding programs. These quality attributes include consistency, tenderness, and flavor. In this case, third party monitoring of program compliance and annual inspections of producers and packers help to protect against moral hazard. Finally, a grid-pricing system helps to reduce price uncertainty and associated measuring, or search costs, by paying producers a premium for their differentiated cattle.

The resource-based view provides a perspective on alliance formation based on market factors. The number of competitors is expected to influence firm decisions to enter into strategic alliances. While all vertical stages of beef production have experienced increases in consolidation, most cow-calf production consists of a large number of small producers. In addition, if one widens the relevant market to include all meats, chicken consumption surpassed beef consumption in the 1990s, and is now the most consumed protein in the U.S. Under such conditions alliances can provide a means of sharing risks and costs, while benefiting from product differentiation.

It may be argued that the branded beef market is an emerging market. The 33 beef alliances listed in 2005, accounted for less than three percent of cattle inventory in the U.S. This

compares to only 6 alliances in 1993. Alliance evolution to date has been difficult and slow (Ishmael). Program operations may evolve over time through, perhaps, a trial and error process. In small, new, and uncertain markets, alliances can help firms to share the financial risks and resources as strategies are refined.

Finally, the degree of innovation involved in each alliance is questionable. However, one may argue that as the industry's oldest brand, some degree of innovation was involved in the CAB strategy and alliance formation to provide resources and reduce risk.

Conclusions

This study contributes by analyzing the experiences of strategic alliances organized to capitalize on brand marketing opportunities, which also provides fruitful grounds for applying concepts from the evolving literature in organizational economics. The industrialization of agriculture is having a significant effect on how food is produced and distributed, and requires agribusinesses to make key strategic marketing decisions to survive and evolve accordingly. New methods of vertical coordination (e.g., contracts, strategic alliances) may serve an important role in assuring the economic viability of farms and other agribusinesses. Branded beef alliances may also give smaller producers a viable means of competing.

Insight into how new coordinating arrangements facilitate value-added product offerings is important for developing policies that build sustainable businesses in a global marketplace. In this paper, we describe and illustrate the application of a theoretical framework for examining alliance formation and alliance structure. While the project remains a work in progress, preliminary conclusions suggest that reducing measuring costs associated with beef quality

attributes play an important role in beef supply chain alliances. This finding is consistent with Masten, who finds measurement costs to be more pertinent to the design of intermediate forms of vertical coordination, such as alliances, compared to relationship-specific investments. In addition to measuring costs, strategic positioning may also play a role in alliance formation as programs evolve in uncertain market environments. Future work will extend the current analysis by refining the theoretical framework, and expanding the case study analysis.

Selected References

Anton, T.E. Not All Beef Marketing Alliances Are the Same: A Review of Alliance Types," EDIS. Cooperative Extension Service. Institute of Food and Agricultural Sciences, University of Florida. November 2002. FE362.

Barzel, Y. "Measurement Costs and the Organization of Markets," *Journal of Law and Economics*, Vol. 25, 1982, pp. 27-48.

Brocklebank, A., and J.E. Hobbs. "Building Brands: Supply Chain Alliances in the Canadian Beef Industry," Prepared for Canfax Research Services. October 2004.

Eisenhardt, K.E. "Agency Theory: An Assessment and Review." *Academy of Management Review*, 14(1989):57-74.

Eisenhardt, K.M., and C.B. Schoonhoven. 1996. "Resource-Based View of Strategic Alliance Formation: Strategic and Social Effects in Entrepreneurial Firms," *Organization Science*, Vol. 7, pp. 136-50.

Ishmael, W. "Alliances' Impact Growing Sort Of," *Beef Magazine*, accessed August 10, 2005 at: beef-mag.com/mag/beef_alliances_impact_growing/.

Killinger, K.M., C.R. Calkins, W.J. Umberger, D.M. Feuz, and K.M. Eskridge. "Consumer visual preference and value for beef steaks differing in marbling level and color." Journal of Animal Science 82(2004): 3288-3293.

Koohmarie, M., T.L. Wheeler, and S.D. Shakelford. "Beef Tenderness: Regulation and Prediction." Unpublished manuscript, U.S. Meat Animal Research Center, USDA, Clay Center, NE. undated. http://www.ars.usda.gov/SP2UserFiles/Place/54380530/19950004A1.pdf .

Loureiro, M.L., and W.J. Umberger. "A Choice Experiment Model for Beef Attributes: What Consumer Preferences Tell Us." Selected Paper at the American Agricultural Economics Association Annual Meetings, August 2004.

Lusk, J., "Branded Beef: Is it What's for Dinner?" Choices (2001).

Lusk J.L., J.A. Fox, T.C. Schroeder, J. Mintert, and Koohmaraie M. "In-Store Valuation of Steak Tenderness." American Journal of Agricultural Economics, 83(2001): 539-550.

Masten, S.E., ed. *Case Studies in Contracting and Organization*. New York: Oxford University Press, 1996.

Umbereger, W.J., D.M. Feuz, C. R. Calkins, and B.M. Sitz. "Country of Origin Labeling of Beef Products: US Consumers' Perceptions." Paper presented at the FAMPS Conference, March 2003.