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Strategic Alliances in the U.S. Beef Supply Chain

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This study analyzes vertical-coordination practices in the U.S. beef supply chain focusing on strategic alliances. We present results from a survey of beef alliances describing their organizational structure, the nature of participants' involvement, contractual requirements, information-sharing practices, services offered to alliance participants, and marketing strategies. Survey results provide a detailed description of 13 beef alliances and are intended to inform potential participants about vertical-coordination alternatives. In addition, the study provides relevant information for future economic research on the formation, organization, and functioning of beef alliances.

The beef supply chain has been traditionally described as a complex intertwining of multiple vertically sequenced segments characterized by intense rivalry and adversarial positions between supply-chain participants. However, this description of the beef supply chain is beginning to change as a result of the agroindustrialization process. First, the beef supply chain has witnessed concentration in all segments over the last few decades. The number of cow-calf producers, feedlots, and beef slaughter plants has suffered significant decline as the industry adjusts to slow growth in domestic beef consumption. In addition, concentration in food retailing and changes in consumer preferences and buying habits are affecting business practices, resulting in tighter linkages and coordination between segments of the beef supply chain.

Unlike the poultry and pork industries, the beef industry has been relatively slow to industrialize in the form of non-market vertical coordination. The poultry industry was the first to adopt structural change as spot-market transactions were replaced by contractual arrangements between processors and growers and also by vertical integration (Martinez 1999). Currently, 99 percent of all broilers are marketed through production contracts and ownership integration (Harris et al. 2002). In the pork industry, hogs typically were produced on farrow-to-finish farms and sold to processors on open markets. By the late 1990s, the majority of market hogs were produced primarily in three stages lo-

cated in different places and then marketed through vertical contracts. As a result, hog marketings in open markets have declined, with 60 percent of hogs now being marketed through multiyear contracts or vertical integration (Martinez 1999).

Vertical coordination in the beef industry is taking place with the formation of alliances between supply-chain participants (Ward and Estrada 1999; Lawrence, Schroeder, and Hayenga 2001; Ward 2001). Cooperation is becoming more evident in the beef supply chain as consumers demand more information about the quality, safety, and origin of food products and as food retailers adopt tighter supply-chain-management systems. Alliances have emerged in the beef supply chain as one way to achieve vertical coordination and quality control, thereby serving consumer wants.

This paper analyzes vertical coordination practices in the U.S. beef supply chain, focusing on strategic alliances. We conducted a survey of beef alliances, which included a series of questions about organizational structure, the nature of participants' involvement, contractual requirements, information sharing practices, services offered to alliance participants, and marketing strategies. Survey results provide a detailed description of 13 beef alliances and are intended to inform potential participants about vertical-coordination alternatives. In addition, our descriptive study informs future economic research on the formation, organization, and functioning of beef alliances.

Strategic Alliances

Fundamental structural changes have been taking place in the U.S. beef industry over the past few decades which are altering traditional business relationships between firms in supply chains. For

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example, it has been suggested that “collaboration between competitors is in fashion” (Hamel, Doz, and Prahalad 1989, p. 133). Many variations of vertical and horizontal coordination strategies have evolved both in agri-food chains as well as in other industries, with a given firm potentially using multiple strategies depending on the characteristics of its business transactions (Lazzarini, Chaddad, and Cook 2001). One common inter-firm collaborative arrangement is the strategic alliance.

There are many competing definitions of strategic alliances in the literature (see, for example, Hamel, Doz, and Prahalad 1989; King 1992; Sporleder 1994). In this paper, we define a strategic alliance as any form of cooperation or coordination between two or more independent entities—not limited by ownership, control, or equity investments—with some common strategic purpose. Alliances are usefully divided into two major types: vertical and horizontal. A horizontal alliance is one in which two (or more) firms that produce or market the same product at a given level of the supply chain work together. A vertical strategic alliance occurs when one entity supplies a commodity or service to a second entity that adds value to that input.

Strategic alliances and other forms of vertical cooperation and coordination create a continuum that ranges from open spot markets to vertical integration. Peterson, Wysocki, and Harsh (2001) describe this continuum based on control intensity. On the left end of the continuum, characterized by low intensities of control, lies the spot market with the price mechanism used as a coordination tool. On the right end of the continuum, characterized by high intensities of control, lies vertical integration. This continuum also identifies hybrid structures that are neither markets nor hierarchies, including specification contracts and relationship-based and equity-based alliances.

Relationship-based alliances are characterized by mutuality in strategic objectives, decision-making control, and risk and benefit sharing. Transaction coordination thus resides in shared control. The distinguishing feature of an equity-based alliance is the presence of a formal organizational structure with a distinct identity from alliance partners. This organizational structure is mutually owned by alliance partners and is intended to be their joint agent in coordinating the transaction. Examples include joint ventures, clans, and cooperatives.

Beef Alliances

Beef alliances use contracts and incentive structures to link stages of the supply chain and to create a marketing organization (Anton 2002). Many reasons have been identified for beef alliance formation including reduced costs, higher market prices, and securing market outlet. Many of the contracts observed in beef alliances stipulate payment rules, most often in the form of a pricing grid. Alliances are also used as a means to bring together producers in multiple stages of the supply chain, sharing the same marketing goals and decreasing barriers to information transfer. In doing so, alliances allow an efficient transfer of consumer preferences through the supply chain.

Ward and Estrada (1999) describe alliances as “being created to more quickly move the beef industry towards value-based pricing” (p. 2). Information provided by alliances allows producers at one end of the supply chain to more accurately respond to consumer demands at the other end of the chain. The authors posit two major benefits of beef alliances: “alliances attempt to overcome adversarial tensions between stages in the production-marketing chain by joining together producers, feeders, packers, and retailers,” and “by establishing cooperative linkages from producers to retailers, information about what consumer’s desire can more efficiently flow through the production and marketing chain” (p. 9).

According to Purcell and Hudson (2003), vertical alliances have emerged as an alternative way to achieve coordination and quality control in order to better serve consumer wants. The production of high-quality cattle is believed to increase profits given the consumers’ willingness to pay for consistent-quality, convenient-to-prepare, and branded products. Traditionally, the transaction price as cattle move through the supply chain is the only information exchanged between participants. Through alliances, cattle ranchers, feedlot operators, packers, and eventually retailers may function as one coordinated unit, changing the way transactions are coordinated along the supply chain.

Another study suggests that alliances are closed membership groups that share information in an attempt to differentiate products or services, thereby capturing a premium price. However, economists have raised concerns about beef-market information becoming increasingly proprietary and the possibility that supply chains foster non-competi-

tive behavior. Salin (2000) discusses how alliances might shape the future of the beef industry; she concludes that alliances will have a limited effect on overall productivity of the cattle-beef sector if they remain small and specialized. However, the author observes early signs of a two-tiered system: chain alliances for premium beef and open markets for lower-quality meat.

As the beef industry begins to shift toward a more coordinated system capable of delivering more branded beef products to niche markets, producers are still wondering which option, if any, is best for the future success of their cattle operations. Our research, based on a survey of all known beef alliances in the U.S., presents both the differences and commonalities among alliances through a more-detailed description of how alliances are formed, the purpose of alliance formation, their organization, their membership, and the services offered to alliance participants. In addition, this survey of U.S. beef alliances informs future research intended to shed light on the economics of alliances as a vertical-coordination mechanism.

Survey of Beef Alliances: Procedures

The initial draft of the survey questionnaire was prepared following Dillman's (2000) survey-instrument design approach. Subsequently, the survey underwent multiple revisions before being distributed to six individuals for a pretest. After the pretest and additional revisions were made, the survey was placed online for completion by respondents. The final version of the survey instrument consists of forty closed-ended questions and four open-ended questions (see Appendix). Survey respondents were identified through three primary sources: "Alliance Yellow Pages" by *Beef Magazine*, "Beef Supply Chains and Vertical Coordination Programs" by *Drovers Journal*, and personal contacts made during the 2003 National Cattleman's Beef Association Conference. From these sources, 67 coordinated groups in the beef supply chain were identified (Table 1).

An initial pre-survey letter was sent by e-mail on April 16, 2003 to all identified beef alliances. Survey respondents were leaders (managers, member relations, and other staff) of the alliances, rather than representatives of the individual entities involved in the alliances. This is important because the focus of the research is the alliance itself, not alliance

participants. In addition, the decision to target alliance leaders as survey respondents avoids getting multiple views of the same alliance or individual views of a number of alliances. From this pre-survey letter it was determined that there were 62 viable respondents, as three potential respondents were out of business and two could not be reached due to invalid contact information. A week after the first contact attempt, a second e-mail including the link to the Internet survey was sent. Another e-mail with the survey instrument included as an attachment was sent to all intended participants who had not responded by April 29. Additional reminders were sent on May 6 via e-mail and by regular mail on May 20.

Data was received from thirteen respondents, a response rate of 21 percent. Given that each respondent represented one alliance, our sample includes 13 alliances of the 67 identified coordinated groups. The total number cattle involved in responding alliances accounts for approximately four percent of total cattle and calf inventories in 2003. The survey results presented below should thus be interpreted with care because of the relatively low response rate and potential response biases. Given the paucity of empirical studies on beef alliances, our objective is to describe the heterogeneity between responding alliances in terms of organization, membership, motivations, and contractual requirements.

Survey Results

Survey results provide a description of beef alliances, the primary motivations for alliance formation, business structure, contractual requirements, service offerings, and marketing strategies. Table 2 provides an overview of the 13 beef alliances described by survey respondents. Formation dates of the alliances ranged from 1978 to 2000. Although the first beef alliance was formed in the late 1970s, the data suggests that alliances in the beef industry are a relatively new phenomenon, with 54 percent of the responding alliances having been formed in the last five years.

The number of owner-members ranged from 145 to 400,000, with 60 percent of alliances having less than 1000 owner-members. As additional measures of alliance size, respondents were asked how many cattle and how many feeder cattle are involved in their alliances. Nine alliances indicated having between 4500 and 2,100,000 cattle involved in a

Table 1. List of Identified Beef Alliances and Coordinated Groups.

Alliance Name	Web Address
Montana Beef Network	www.mtbeef.org/beefnetwork
ConAgra Better Beef LLC	www.conagra.com
Monfort Integrated Genetics	www.nalf.org/bottomline0599/e0599.html
Swift Integrated Genetics LLC	N/A
Missouri Premier Beef	N/A
Cattle Services	www.4-squarecattle.com
Red Angus Feeder Calf Certification Program	www.redangus.org
Caprock Industries	N/A
Glacier Beef Inc.	www.glacierbeef.com
Maverick Ranch Natural Lite Beef	www.maverickranch.com
Missouri Verified Beef	www.moverifiedbeef.com
Nolan Ryan's Tender Aged Beef	www.nolanryanbeef.com
Western Grasslands Beef	N/A
WRB All Natural Premium Beef	N/A
ProBeef Producer Company	www.probeef.com
Gelbvieh Alliance	www.gelbvieh.org
Chariton Valley Beef	www.charitonvalleybeef.com
Country Natural Beef	www.countrynaturalbeef.com
Oregon Country Beef	www.oregoncountrybeef.com
Performance Plus-Retained Ownership	N/A
Performance Plus-Sale Barn	N/A
Land O'Lakes/Farmland Beef Connection	N/A
Iowa Beef	N/A
Premium Gold Angus Beef	www.pgabeef.com
Hi-Pro Producers Edge Program	www.frioind.com
Painted Hills Natural Beef	N/A
Consolidated Beef Producers	www.consolidatedbeef.com
Beef Advantage Project	www.beefadvantage.com (auth. Req.)
B3R Country Meats	www.b3r.com
Circle A Angus Ranch	www.circlearanch.com
PM Beef Groups Ranch to Rail	www.pmholdings.com
Coleman Natural Products Inc.	www.colemannatural.com
Nebraska Corn-Fed Beef	www.necornfedbeef.com
Ranchers Renaissance	N/A
Agri-Beef	www.crinet.com
Meyer Natural Angus	www.meyerbeef.com
Conception to Consumption	www.crinet.com
Iowa Quality Beef	www.iacattlemen.org
Precision Carcass Data	www.iacattlemen.org
Angus Gene Net	www.genenetbeef.com

Table 1. List of Identified Beef Alliances and Coordinated Groups (Continued).

Alliance Name	Web Address
Brangus Gene Net	www.genenetbeef.com
Charolais Gene Net	www.genenetbeef.com
ADM Alliance Nutrition—Value Track	www.moorman.com
Beef Marketing Group	N/A
Angus America	www.angusamerica.com
MFA Health Track Beef Alliance	www.mfahealthtrack.com
Cactus Feeders	www.cactusfeeders.com
Red Oak Farms Premium Hereford Beef	N/A
Premium Quality Foods Inc.	N/A
Iowa Quality Beef Supply Network	N/A
Piedmont Cattle Producers Association	www.pcmabeef.com
Leachman Certified Program	www.leachman.com
Montana Range Natural Piedmontese Beef	www.montanarange.com
Certified Hereford Beef	www.herefordbeef.org
Five-State Beef Initiative	www.5statebeef.org
Samson Premium Beef	N/A
Certified Angus Beef LLC	www.cabfeedlots.com
Western Beef Alliance Inc	N/A
U.S. Premium Beef Ltd.	www.uspremiumbeef.com
Decatur Beef Alliance	N/A
Benton and Eastern Iowa Farmers Feeders	www.beiff.com
Veri Prime	www.veriprime.com
American Salers	www.salersusa.org/asa-commercial.htm
Laura's Lean Beef	www.laurasleanbeef.com/cattleProgram
Ward Feed Yard Inc.	N/A
Farmland Supreme Beef	www.agribeeff.com
Power Genetics	www.powergenetics.com
Kentucky's Premium Feeder Cattle Management Program	N/A

given year, with a median of 50,000 head. In addition, 67 percent of respondent alliances handle less than 100,000 head of cattle annually. Only five alliances provided a response regarding feeder cattle; these responses ranged from 0 to 150,000 head. The relatively low number of cattle in many of the alliances—both at the cow/calf-producer and at the feeder level—appears to support the industry view that alliances are primarily used to market beef in niche markets.

The size of producers involved in beef alliances is an important issue to scholars and practitioners. There is a misconception in the beef industry that producers participating in alliances tend to be very large, with lots of capital and cattle. Thus respondents were asked what percentage of their participating cow/calf producers and feeders were small. Ten responding alliances indicated an average of 58 percent of small producer-members (with less than 100 head) and 30 percent of small feedlots (with less

Table 2. Characteristics of Beef Alliances.

Variable	N	Mean	Median	Minimum	Maximum
Year of establishment	13	1996	1998	1978	2000
Number of owner-members	10	40,598	683	145	400,000
Cattle head annually	9	413,500	50,000	4,500	2,100,000
Feeder cattle head annually	5	39,286	20,000	0	150,000
Small cow-calf producers	10	58%	68%	0%	95%
Small feedlots	10	30%	10%	0%	100%
Cattle procurement (States)	11	14	11	1	48
Annual sales (\$)	4	382,325,000	14,000,000	1,300,000	1,500,000,000
Full-time employees	10	13	6	0	90

Table 3. Motivations for Beef Alliance Formation.

Motivation	Frequency	Percent	Cumulative frequency	Cumulative percent
Add value to cattle	9	23	9	23
Increase profits for members	6	15	15	38
Data and information sharing	6	15	21	53
Increase supply chain coordination	5	13	26	66
Ensure consistent quality cattle	4	10	30	76
To meet consumer wants	3	8	33	84
Other	3	8	36	92
Ensure market outlet for cattle	2	5	38	97
Gain bargaining power	1	3	39	100

than 1000 head capacity). The geographic area from which alliances procure cattle is another important issue to producers interested in joining an alliance. Respondents indicated a range from 1 to 48 states, with a mean of 14 states. Approximately 55 percent of alliances indicated that cattle are procured from more than ten states.

The estimated annual sales along with the number of full-time employees are frequent measures of alliance size and stability. Only four alliances provided an estimate of annual sales, which suggests this is a sensitive issue to respondents. Responses to this question ranged from \$1.3 million to \$1.5 billion, with a median of \$14 million. Regarding the number of full-time employees, ten respondents

indicated a range from 0 to 90, with a median of six employees.

Motivation frequencies regarding alliance formation are presented in Table 3. Respondents were asked to indicate the three primary motivations for their alliance formation resulting in 39 total responses. The number-one motivation for beef alliance formation was to add value to cattle, receiving 23 percent of the total number of responses. In addition, 69 percent of responding alliances indicated adding value to cattle was one of the top three reasons for their formation. This finding suggests that the primary motivation for beef alliance formation was to capture margins in the beef supply chain by offering a superior value

proposition to consumers. The next two responses in ranking order—increasing profits for members and data/information sharing—consisted of 15 percent of the total number of responses. Each of these motives was indicated in the top three reasons for alliance formation by 46 percent of the alliances. Additional motivations for beef alliance formation included increasing supply-chain coordination, ensuring consistent-quality cattle, meeting consumer wants, matching cattle with the right packer and program, determining strengths and weakness of breed, getting paid for and advertising the value already being added, ensuring a market outlet for cattle, and gaining bargaining power.

Beef alliances differed in the number of supply-chain segments involved and the nature of the contractual relationship with alliance participants. Table 4 shows each of the responding alliances with the beef-industry segments that are either owner-members or contractual participants. The distinction is that owner-members hold equity and/or voting

rights in the alliance, while participants are entities or individuals that do business with the alliance on a contractual basis. The 13 alliances shown in Table 3 involved from one to seven stages of the beef supply chain and consisted of one horizontally coordinated and 12 vertically coordinated alliances. The horizontal alliance (A1 in Table 3) comprises only feedlot operators as owner-members. The 12 vertically coordinated alliances varied in both number of segments involved and in owner-members or contractual participants. One alliance indicated that their owner-members included participants in all beef supply-chain segments (A5 in Table 3). Considering the remaining eleven vertical alliances, the number of beef industry segments joining the alliance ranged from three to six. Given the observed heterogeneity of alliances with respect to the number of segments involved and the contractual nature of the involvement, future research could attempt to identify the factors that affect alliance structural and membership issues.

Table 4. Involvement of Supply Chain Segments in Beef Alliances.

Chain segment	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13
Seedstock producer	S	S	S	S	S	S	S	S	S	S	S	S	S
Cow-calf producer	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
Feeder	F	F	F	F	F	F	F	F	F	F	F	F	F
Packer	P	P	P	P	P	P	P	P	P	P	P	P	P
Wholesaler	W	W	W	W	W	W	W	W	W	W	W	W	W
Retailer	R	R	R	R	R	R	R	R	R	R	R	R	R
Other	O	O	O	O	O	O	O	O	O	O	O	O	O

Note: Owner-member
Participant

Table 5. Business Structure Adopted by Beef Alliances.

Business structure	Frequency	Percent	Cumulative frequency	Cumulative percent
Cooperative	6	46	6	46
Limited liability company	3	23	9	69
Other	2	15	11	84
Partnership	1	8	12	92
Corporation	1	8	13	100
Sole proprietorship	0	0	13	100

Table 5 shows the business structure adopted by beef alliances. The primary business structure adopted by 46 percent of the responding alliances was the cooperative structure.¹ The choice of the cooperative structure is consistent with the producers' desire to be involved in value-added activities and to have a voice in the organization's decision-making process.

The LLC business structure was chosen by 23 percent of responding alliances. Other business structures not listed on the survey were indicated by two alliances, including the use of an existing alliance grid and an extension of the existing company. It can be inferred that these alliances were contractual and did not involve the organization of a separate legal entity—that is, they can be classified as relationship-based alliances in Peterson, Wysocki, and Harsh's continuum. A partnership and a corporation were also indicated as business structures. No alliances indicated a sole proprietorship as the adopted business structure, which is not surprising, since alliances are by definition formed by more than one independent entity.

The survey included four questions concerning requirements to joining a beef alliance (Table 6). Fifty-four percent of respondents indicated that there was an equity investment required. Different types of equity-investment requirements were reported, including an investment proportional to the number of cattle participating in the alliance, a lifetime-membership fee, and the purchase of member stock in a cooperative. The cost of these equity investments varied based on both the alliance and the type of fee required. The presence and magnitude of alliance membership fees are important to

producers contemplating joining a beef alliance. In addition to member equity investment, 67 percent of responding alliances also require owner-members to sign a contractual membership agreement (Table 6). Only two alliances, however, adopt a minimum cattle-delivery requirement.

The survey also revealed that eight alliances require members to sign a marketing contract. Specific contractual marketing requirements included the marketing channel, the dates/times of delivery, and the pricing mechanism for fed cattle. Forty percent of responding alliances indicated grid pricing as the primary pricing mechanism for fed cattle. The remaining 60 percent of responding alliances adopt a combination of live-weight, hot-carcass-weight, and grid pricing.

Table 7 identifies the requirements producers must follow after joining the alliance and the corresponding frequencies. Nine of the 13 responding alliances indicated at least one requirement for producers joining the alliance. Health practices (vaccinations) were indicated as a requirement by 89 percent of the responding alliances and comprised 24 percent of the total responses. Preconditioning is another top requirement, indicated by 78 percent of the responding alliances (21 percent of the total number of responses). Source verification and detailed record keeping were the next two requirements, indicated by 56 percent of the responding alliances (15 percent of the total number of responses). Alliances also indicated breed specifications, geographic requirements, and other requirements for producers that participate in the alliance. The "others" category included "no specific requirements yet," "follow market demand," and "must complete specified certified premium feeder program."

Respondents were also asked about their alliance relationship with packers, retailers, and distributors

¹ As noted by one reviewer, this result may be biased because cooperative leaders are more willing to respond to surveys than are their IOF counterparts.

Table 6. Requirements to Join Beef Alliances.

Requirement	Yes	No	Percentage Yes
Equity investment by owner-member	7	6	54
Contractual membership by owner-member	8	4	67
Required cattle number from owner-member	2	10	17
Marketing contract with owner-member	8	3	73

(Table 8). Two beef alliances hold ownership stakes in packing facilities, and eight alliances participate in some type of marketing or contractual agreement with a packer. Seven alliances are associated with one or more branded beef products. Alliances indicated more than ten different brands in which they were involved. Packers were the primary own-

ers of the brands, but a few alliances have their own brands. Only three alliances engaged in some form of contractual relationship with a retailer or distributor.

The services provided by beef alliances to members are described in Table 9. Raw feedlot data was provided by 56 percent of the responding alliances

Table 7. Requirements for Members after Joining Beef Alliances.

Requirement	Frequency	Percent	Cumulative frequency	Cumulative percent
Health practices (vaccinations)	8	24	8	24
Preconditioning	7	21	15	45
Source verification	5	15	20	60
Detailed record keeping	5	15	25	75
Breed specifications	3	9	28	84
Other	3	9	31	93
Geographic requirements	2	6	33	99
Equipment designed to decrease stress	1	3	34	100

Note: Cumulative distribution exceeds 100 percent due to rounding.

Table 8. Beef-Alliance Relationships with Packers, Retailers, and Distributors.

Beef-alliance relationship	Yes	No	Percentage Yes
Alliance owns packing facilities	2	10	17
Alliance has contractual agreement with packer	8	4	67
Alliance participates with a branded beef product	7	5	58
Alliance has a relationship with retailer or distributor	3	9	25

Table 9. Member Services Provided by Beef Alliances.

Services	N	Free	Fee-based	Percentage free	Percentage fee-based
Raw feedlot data	9	5	0	56	0
Raw feedlot data and data analysis	10	4	2	40	20
Raw carcass data	9	5	3	56	33
Raw carcass data and data analysis	12	7	5	58	42
Assistance in interpreting carcass data	12	11	1	92	8
Beef industry reports and outlooks	9	7	0	78	0

at no charge. If data analysis is provided in addition to raw feedlot data, only 40 percent of responding alliances indicated that the service was provided free of charge, with an additional 20 percent of the alliances indicating the service is available for a fee. Raw-carcass data was indicated to be available to members by 89 percent of the responding alliances, with 56 percent indicating at no cost. A greater number of alliances indicated that raw-carcass data plus the data analysis is available. Of the alliances indicating that carcass data plus analysis was available, 58 percent indicated that the service was at no charge, while the remaining 42 percent indicated that the service could be performed for a fee. All responding alliances also indicated that they would provide assistance in interpreting carcass data, with 92 percent indicating the service is free of charge and the remaining eight percent charging a fee. Additionally, 78 percent of reporting alliances indicated that industry reports and outlooks are provided to participating producers at no charge.

The primary distribution channels used by beef alliances are shown in Table 10. The primary distribution channel is the traditional retail store (56 percent of total responses). Other distribution channels not listed on the survey were indicated by 33 percent of the respondents, including special sales, grid marketing, and convenience stores. Chain restaurants were indicated as the primary distribution channel by one alliance.

The primary end consumer indicated by 40 percent of respondents was a quality-conscious beef consumer (Table 11). The “other” option, indicated by 40 percent of the respondents, included the quality, environmental, animal-well-being-conscious consumer; order buyers; and the quality, health-conscious consumer. One alliance indicated that the target end consumer depended on the branded beef product, whereas two alliances indicated that their target end consumer was the everyday beef consumer.

Summary and Suggestions for Future Research

Vertical coordination in the beef industry is taking place primarily with the formation of alliances between supply-chain participants. We conducted a survey of beef alliances, which included a series of questions about organizational structure, the nature of participants’ involvement, contractual requirements, information-sharing practices, services offered to participants, and marketing strategies. Our results suggest that beef alliances are primarily used as vertical-coordination mechanisms, which are assisting the beef supply chain to evolve toward a consumer-oriented system. Although alliances appear to be diverse in makeup, size, organization, contractual requirements, and marketing strategies, they share the common strategic goal of adding

Table 10. Beef Alliances’ Primary Distribution Channels.

Distribution channel	Frequency	Percent	Cumulative frequency	Cumulative percent
Traditional retail stores	5	56	5	56
Other	3	33	8	89
Chain restaurants	1	11	9	100

Table 11. Beef Alliances’ Target End Consumers.

End consumer	Frequency	Percent	Cumulative frequency	Cumulative percent
Quality conscious beef consumer	4	40	4	40
Other	4	40	8	80
Everyday beef consumer	2	20	10	100

value to cattle in order to increase industry profits by supplying a more-desired product. The differences and similarities among alliances provide beef supply-chain participants with coordinated marketing options so that they can engage in value-added activities and at the same time preserve their valued independence. Research results, therefore, are expected to inform producers' decisions regarding which alliance to choose.

Due to a small sample size, however, detailed statistical analysis was not possible. Our discussion thus provided a general overview of the diversity of beef alliance arrangements. Despite being informative, this survey research only begins to inform the economics of beef alliances and the factors affecting their formation and organization. Research questions that warrant future consideration include (a) the economic impacts of vertical-coordination mechanisms on beef industry structure and performance; (b) factors affecting beef-alliance success and longevity; (c) factors influencing the number of supply-chain segments involved in vertical beef alliances; (d) alliance business-structure choice; (e) factors influencing producers' willingness to join a beef alliance; (f) the alignment between contractual requirements, alliance objectives, and strategy; (g) procedures for contractual-requirement verification including cattle origin; and (h) alliance-participation impacts on beef producer returns.

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Appendix Beef-Alliance Survey Instrument

For the purpose of this survey the term *alliance* will be used as a general term for all types of cooperation mechanisms in the beef industry, including cooperatives, strategic alliances and producer associations. This survey is absolutely confidential. Please skip any questions you do not feel comfortable answering. All responses are highly valued and will be used to aid in the completion of Miss Mulrony’s Master Degree.

1. In what year was your alliance formed? _____ year
2. What was the motivation for the formation of your alliance? Indicate the 3 most important reasons:
 - a. Ensure consistent quality cattle
 - b. To meet consumer wants
 - c. Increase profits for members
 - d. Greater quality control with respect to food safety
 - e. Ensure market outlet for cattle
 - f. Gain bargaining power
 - g. Purchase input supplies in bulk
 - h. Increase coordination between industry participants
 - i. Add value to cattle
 - j. Sharing of data/information
 - k. Other: _____

3. Indicate how the following stages of the beef industry are involved in your alliance.

	Owner/Member	Participate	Not Involved
Seedstock producers	___	___	___
Cow/calf producers	___	___	___
Feeders	___	___	___
Packers	___	___	___
Wholesalers	___	___	___
Retailers	___	___	___
Other: _____	___	___	___

4. Please indicate the number of individuals or companies that you indicated as owner/member in question 3.

___ Seedstock producers	___ Wholesalers
___ Cow/calf producers	___ Retail stores
___ Feeders	___ Other: _____
___ Packers	

5. How many cattle are currently in your beef alliance on an annual basis?

_____ Total head of cattle
 _____ Head of feeder cattle

6. What percentage of the cow/calf producers and feedlots in your alliance are “small” versus “large”?

Cow/calf producers:	Feedlots:
___ Less than 100 head	___ Less than 1,000 head
___ Greater than 100 head	___ Greater than 1,000 head

7. Indicate the business structure adopted by your alliance. Circle one:

- a. Sole proprietorship
- b. Partnership
- c. Limited liability company
- d. Corporation
- e. Cooperative
- f. Other _____

8. Does your alliance require an equity investment by owner/members?

- a. Yes
- b. No

9. If yes, how is equity investment determined? Circle one:

- a. Based on number of cattle participating in the alliance
- b. Annual fee
- c. Lifetime membership fee
- d. Other _____

10. If equity investment is on a per head basis, which range does the per head investment fall into? Circle one:
- a. Less than \$5 b. \$6–10
 c. \$11–15 d. \$16–20
 e. \$21–25 f. Greater than \$25
11. If a flat fee were the equity investment required, which range would it fall into? (Circle one)
- a. Less than \$100 b. \$1,001–5,000
 c. \$101–500 d. \$5,001–10,000
 e. \$501–1,000 e. Greater than \$10,000
12. Do you require a contractual membership agreement?
- a. Yes b. No
13. Are there any requirements as to the number of cattle that a producer must deliver in a year? If yes, please indicate the number of cattle.
- a. Yes b. No _____ Number of cattle
14. Do you require a marketing contract to be signed?
- a. Yes b. No
15. How are the following included in your marketing contract?
- | | Specified by contract | Specified by producer | Not included |
|-------------------------------------|-----------------------|-----------------------|--------------|
| Specific dates/times of delivery | — | — | — |
| Channel for marketing feeder cattle | — | — | — |
| Channel for marketing fed cattle | — | — | — |
16. In addition to equity investment, membership agreement and/or marketing contracts do you have any other required form of commitment from members?
- a. Yes b. No
17. If yes, what are your requirements? _____
18. Does your alliance own a packing/slaughtering facility?
- a. Yes b. No
19. If yes, what is the percentage of the ownership stake? Circle one:
- a. 100% b. 51–99% c. less than 50%
20. Does your alliance have a marketing or contractual agreement with a packer?
- a. Yes b. No
21. Is your alliance associated with a branded beef product?
- a. Yes b. No
22. If yes, please indicate which brand(s).

23. If a brand is indicated, who owns the brand? Circle one for each brand:
- | Brand 1 | Brand 2 | Brand 3 |
|----------------|----------------|----------------|
| a. Alliance | a. Alliance | a. Alliance |
| b. Retailer | b. Retailer | b. Retailer |
| c. Packer | c. Packer | c. Packer |
| d. Other _____ | d. Other _____ | d. Other _____ |
24. Does your alliance have a contractual relationship with a retailer or distributor?
- a. Yes b. No
25. What is the primary distribution channel for your beef alliance? Circle one:
- a. Top-end restaurants b. Fast food restaurants
 c. Chain restaurant d. Traditional retail stores
 e. Specialized retail stores f. Organic retail stores
 g. Direct sales to consumers h. Other: _____

26. What is the target end consumer for your alliance? Circle one:
 a. Everyday beef consumer b. Health/diet conscious beef consumer
 c. Quality conscious beef consumer d. Organic/environmental conscious beef
 e. Other: _____ consumer
27. What pricing mechanism is used in the sale of fed cattle?
 a. Live weight b. Hot carcass weight
 c. Box pricing d. Grid pricing
 e. Combination of above f. Other: _____
28. If grid pricing is used what is the base?
 a. Select a. Yield grade 1
 b. Choice b. Yield grade 2
 c. High Choice c. Yield grade 3
 d. Prime d. Yield grade 4
29. Does your alliance allow for retained ownership?
 a. Yes b. No
30. If yes, what percentage of the alliance's producers chooses retained ownership? (Circle one)
 a. 0-25% b. 26-50%
 c. 51-75% d. 76-100%
 e. mandatory
31. What requirements are placed upon cattle participating in the alliance? (Circle all that apply)
 a. Breed Specifications b. Preconditioning
 c. Source Verification d. Health practices (vaccinations)
 e. Detailed record keeping f. Organic requirements
 g. Geographic Requirements h. Free range
 i. Maximum pen sizes in feed yards j. Equipment designed to decrease stress
 k. Other: _____
32. How does your alliance verify adherence to management requirements? (Circle one)
 a. Verification by alliance b. Third party verification c. No verification practices
33. How does your alliance provide the following services to members?
- | | Free | Fee based | Not provided |
|--|------|-----------|--------------|
| Raw carcass data | ___ | ___ | ___ |
| Raw carcass data + data analysis | ___ | ___ | ___ |
| Raw feed lot data | ___ | ___ | ___ |
| Raw feed lot data + data analysis | ___ | ___ | ___ |
| Assistance to producers in interpreting carcass data | ___ | ___ | ___ |
| Beef industry reports and outlooks | ___ | ___ | ___ |
34. How is the carcass data reported back to the producer or feeder? (Circle one)
 a. By ear tag number only b. Average of heard only
 c. Specified by producer d. Both by ear tag and average
35. What carcass data is collected? (Circle all that apply)
 a. Yield b. Hot carcass weight c. Ribeye area
 d. Quality e. Cold carcass weight f. Preliminary yield grade (back fat)
 g. Other: _____
36. Who has access to data collected by the alliance? (Circle one)
 a. Specific producer or feeder data pertains to
 b. Everyone in the alliance
37. Is your alliance able to trace back to origin on the cattle participating in the alliance?
 a. Yes b. No
38. From how many states does your alliance procure cattle?
 (Provide the number of states): _____

39. Estimate of annual sales: _____

40. How many full time employees do you have on staff in your alliance? _____

If you have additional time please take the time to answer the following open-ended questions.

41. How is the base price determined for the grid used by your alliance?

42. Describe the organizational structure of your alliance.

43. What policies does your alliance have in place concerning participants that wish to exit the alliance?

44. Where do you feel that the beef industry is headed in the next ten to twenty years and how do you feel it will change?

Thank you for your time and cooperation.