

ANALYSIS OF STRATEGIC ALLIANCES
AND VERTICAL COOPERATION
IN THE BEEF INDUSTRY

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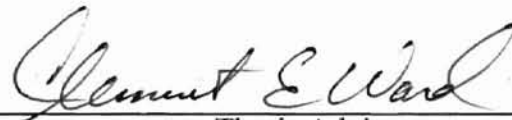
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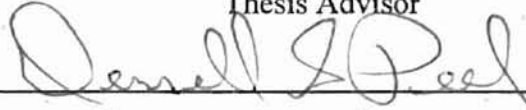
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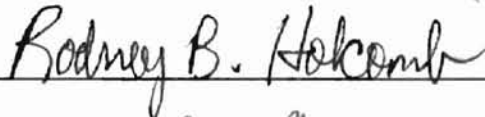
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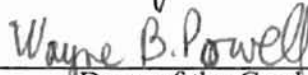
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PREFACE

This study was conducted to increase available knowledge about strategic alliances and vertical cooperation in the beef industry. Proponents of strategic alliances promise producers and the industry increased returns. Information about alliance characteristics is limited. The overall objective of this research was to increase available information about beef alliances so producers can make more informed decisions regarding their use. Specific objectives of this research were (1) develop an accurate list of alliances and their characteristics, (2) identify the characteristics in the alliance that influence vertical cooperation, (3) devise a categorization system for each characteristic, and (4) develop a measurement system to classify alliances according to the degree of vertical cooperation they achieve. Primary contributions of this research are increased information about strategic alliances and an investigative tool that can be used by producers, alliances and industry segments. Data for this research were collected from twenty-seven different alliances during 1997 – 1998. Six different scoring methods were used to calculate the degree of vertical cooperation achieved by an individual alliance. Rank correlation tests were conducted between each combination of the six scoring methods.

light to the hard above. He has always walked with me on life's
journey, and I am grateful to the power of faith. Through

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CHAPTER I

INTRODUCTION

Problem Statement

A challenge for any consumer good is finding ways to stay economically viable within changing consumer environments. The beef industry is no different. In the sixties to mid seventies, “beef was king”. Per capita consumption of beef surpassed both chicken and pork by 45 lbs. on average. After 1976 per capita consumption of beef began to decline while consumption of chicken increased steadily. Per capita consumption of chicken (69.2 lbs.) finally surpassed per capita consumption of beef (67.8 lbs.) in 1990 (Purcell, 1993). The trend has since continued with consumption of chicken increasing and consumption of beef declining. Now, after several years of declining market share, beef producers, feeders, packers, and retailers are looking for ideas to regain market share.

The agricultural marketing environment is evolving to better serve a modern customer base. Several demographic shifts have altered the needs and wants of today’s buyer. For example, with more women working outside the home, products that require less preparation time are more desirable. Consumers now demand a wider variety of products with a myriad of specifications (low fat, preparation ease, low sodium, etc.). The nation’s three main livestock industries (beef, pork, and poultry) must produce

tailored products rather than general commodities to satisfy today's consumer. The beef industry's conventional method of conducting business makes this task cumbersome.

Traditionally, the beef industry has relied on an open market system to send clear signals through the production-marketing chain (producer, feeder, packer and retailer) related to what, when, and how much to produce (Figure 1). Price is the information link between supply and demand that coordinates the open market system. Using this marketing method, cattle are priced on averages. This method works adequately for average type cattle that are marketed as a commodity.

Today's consumer demands value-added products rather than commodities. The industry must shift to non-price forms of coordination to supply high-value beef products because the open market system does not convey end-user information efficiently (Purcell, 1997). Lack of correct information has led to inconsistent quality, sporadic supplies and low product differentiation. The marketing system must be based on end-user qualities for correct market information to filter through the distribution channel. With a quality driven pricing system, the production-marketing chain could respond by supplying superior cattle, which would then provide consumers high-value beef products.

The industry is attempting to more accurately coordinate beef supply and consumer demand by shifting from live weight pricing to a negotiated grid pricing system. Grid pricing is an attempt to price cattle based on the value of each individual carcass. Grids are developed using quality and yield grade characteristics that reflect product qualities that consumers desire. Therefore, cattle that perform well on a grid send clearer signals of customer satisfaction to the producer (Ward, Feuz, and

Schroeder). In this manner, the production-marketing system should relay more accurate information, hence supply and demand would be more efficiently matched.

Correcting the pricing system is not enough. The cattle-marketing channel must be re-structured. The channel has several transaction points that are structured to distribute commodity type cattle. For value-added beef products to reach the consumer, the distribution channel must be more specialized and controlled.

In an attempt to improve marketing channel coordination, many beef industry businesses are joining forces and forming strategic alliances. Participants in an alliance are provided with data about their cattle, which they may use to make more profitable production and marketing decisions. The data are also shared with segments of the marketing chain that are cooperating in the alliance. By sharing information openly, the needs and wants of the customer should be passed through the channel more efficiently.

There is a lack of research identifying these alliances, their goals, characteristics, and requirements. Specifically, what factors make alliances more beneficial for a producer than the open market? Currently, there is inadequate information about alliances for producers to make the most informed decisions regarding their use.

Objectives

The overall objective of this research is to increase available information about beef alliances so producers can make more informed decisions regarding their use.

Specific objectives are:

1. Develop an accurate list of alliances and their characteristics.
2. Identify the characteristics in each alliance that influence vertical cooperation.
3. Devise a categorization system for each characteristic.

4. Develop a measurement system to classify alliances according to the degree of vertical cooperation they achieve.

Plan of Research

To accomplish the first objective, a letter was mailed to each National Cattlemen's Beef Association (NCBA) affiliate organization, state beef councils and breed associations requesting any information about alliances currently operating in the industry. In addition, cattle industry publications and Cattle Fax were contacted by phone, to compile a more complete list of alliances. Next, contact was made with each identified alliance to request any organizational information that was available.

A standard outline of characteristics was created based on the organizational information received (Appendix A). The outline consisted of category headings believed to be pertinent to each alliance identified. Then, the information for individual alliances was recorded in the outline form. Afterwards, each form was faxed to the organization for them to add any missing information and/or correct any misinformation. Several alliances were also contacted by phone to compile complete information.

To meet the second objective, a classification and scoring technique similar to the one used by Harris and Massey was developed and implemented. Nine characteristics were isolated to help identify the degree of cooperation of each alliance. For each characteristic, a criterion range (low to high) was created to measure the degree of cooperation accomplished. For some characteristics, four criteria groups were possible, while other characteristics could only be grouped into two or three criteria groups. Then, each characteristic was scored utilizing six different methods (Table 1). The first method (A) scored each characteristic on a 1-2-3-4 scale. If there were two criteria groups for the

characteristic, only a 2 or 4 was given. Characteristics with three options were scored on a 2-3-4 scale. Characteristics with two options were scored on a 3-4 scale, and characteristics within categories. This method

The second scoring method (B) put everything on a four point maximum scale. If there were four criteria groups for a characteristic, numerical scores ranged from 1 to 4. If there were three criteria groups, numerical scores were 2 to 4; and if there were two criteria groups, numerical scores were 3 to 4. The third method (C) utilized a floating maximum scale. If there were four criteria groups, numerical scores were from 1 to 4. If there were three criteria groups, numerical scores were 1 to 3; and if there were only two criteria groups, numerical scores were 1 to 2. Essentially, methods two and three were the inverse of one another. Method two had a constant maximum, regardless of the number of criteria groups; while the third method had a constant minimum (i.e., 1), regardless of the number of criteria groups.

Weighting methods were also used to score the characteristics. These weighting schemes were used in conjunction with methods B and C. The first method (D) weighted each broad category (organization, inputs, output, marketing and information) equally. The characteristics under organization and inputs did not receive any added weight because there were three characteristics within these categories. The number of characteristics per category dictated the weighting of the other categories. Information scores were multiplied by three because there was only one characteristic within the category. Branded products and pricing were each multiplied by $3/2$ to weight their category equally with three points. This weighting procedure was applied to scoring methods B and C mentioned above.

The next scoring scheme was a weighting method (E) that reflected the varying weights for broader categories and characteristics within categories. This method weighted the characteristics under organization, marketing and information twice as important (score x 2) as those under inputs (score only). Again, this method was applied to scoring methods B and C.

The final scoring scheme (F) was a weighting method that varied the weights of individual characteristics. This final method weighted breed specifications, source verification, management strategies, pricing and data twice as important as the rest of the characteristics. This method was also applied to scoring trials B and C. Individual scoring results are listed in Table 2.

After the weighting schemes were finished, a non-parametric rank correlation procedure was utilized to make inferences about the association between the primary scoring schemes. The Spearman rank correlation coefficient was calculated for this purpose. The Spearman rank correlation coefficient was calculated using the following equation:

$$R_s = \frac{\sum (R_{i1} - \bar{R}_1)(R_{i2} - \bar{R}_2)}{\left[\sum (R_{i1} - \bar{R}_1)^2 \sum (R_{i2} - \bar{R}_2)^2 \right]^{1/2}}$$

The coefficient R_s equals 1 when the ranks for Y_1 are identical to those for Y_2 . In this case, there is perfect association between the ranks of the two variables. The coefficient R_s equals -1 when there is perfect inverse association between the ranks for the two

variables. When there is little, if any, association between ranks of the variables, the Spearman rank correlation coefficient tends to be a value near zero (Neter et al.).

The Spearman rank correlation coefficient was also used to test the following alternatives:

H_0 : There is no association between Y_1 and Y_2

H_a : There is an association between Y_1 and Y_2

These alternatives were tested for all the combinations of the scoring schemes. The test statistic was calculated as follows (Neter et al.):

$$t^* = \frac{R_s \sqrt{n-2}}{\sqrt{1-R_s^2}}$$

The Spearman rank correlation coefficients and the associated t statistics are listed in Table 3.

CHAPTER II

CONCEPTUAL FRAMEWORK

Vertical Coordination

Over the past few decades, researchers have examined non-price forms of coordination used in agriculture. Mighell and Jones described, in an explanatory manner, a body of general principles that affect the economics of vertical coordination in agriculture. Specifically, they examined the theory of the firm and profit maximization; market structure; risk and uncertainty; and capital and financing as reasons for particular forms of vertical coordination. Then, existing market structures were evaluated using those general principles and areas of further research identified. They defined vertical coordination as a general term which included all the ways of harmonizing the vertical stages of production and marketing. The forms of coordination they evaluated included (1) the market price system, (2) vertical integration, (3) contracting and (4) cooperation.

Mighell and Jones were primarily concerned with vertical integration and contractual arrangements in agriculture and why these forms of coordination had arisen. Since then, researchers have studied non-price coordination from several perspectives. Specifically, Harris and Massey began to examine vertical coordination contracts from a legal-economic perspective. Their fundamental objective was to expand the knowledge and comprehension of what is actually involved, legally and economically, in the shift

from a relatively autonomous open-market enterprise to one that is coordinated vertically with an off-farm operation through a contract. They consolidated the steps in production of interest to the farmer into three categories: (1) acquiring the input, (2) producing the commodity and (3) marketing the output. The focus of the study was the on-farm defined production phase as this is the area of attention in contract farming. The study risks and encompassed representative contracts within the major agricultural commodities: three

In their report, Harris and Massey included descriptions of the legal-institutional structure within which the contracts were executed, performed, enforced and the legal effect of the arrangement. For the economic aspect, they constructed a classification system which would measure the shift of entrepreneurship from producers to off-farm organizations and shed light on the nature of vertical coordination contracts based on selected classification criteria.

Peterson and Wysocki's research focused on how a particular firm decides which coordination strategy to use. Initially, they constructed a vertical coordination continuum which was based on the intensity and nature of control that the alternative strategies implement to assure that proper coordination occurs (Figure 2). On the left end of the continuum were strategies with the lowest intensity of control while on the right end were the strategies with the highest intensity of control. They sought to further explain the middle of the continuum to obtain a better understanding of the inter-connectedness between the strategies within the continuum. The continuum included spot/cash market, specifications contract, strategic alliance, formal cooperation and vertical integration. After they defined the vertical continuum, a decision framework was created to replicate

the procedure that a manager might use in making decisions about which coordination to use.

In the Peterson and Wysocki continuum, strategic alliances were located in the middle of the open market and complete integration continuum. The researchers defined strategic alliance as an exchange relationship in which the firms involved share risks and benefits emanating from mutually identified objectives. In this sense, strategic alliances arise from mutual control. Peterson and Wysocki identified that the intensity of control needed to align and maintain mutual interests involves processes that are more complex than those for either spot markets or specification contracts. To control the process, relationships must be built that help assure mutual interests are present. In addition, after the alliance relationship is created, the relationship and transaction performance must be monitored. They affirm that for this form of coordination to be successful, parties in a strategic alliance must invest significant time and commitment to building and maintaining beneficial relationships.

den Ouden et al. analyzed coordination options specifically for agricultural production-marketing chains. They studied two strategies and the effects each had on the optimization of the production-marketing chain as a unit. They compared the advantages and disadvantages for complete vertical integration and incomplete integration (i.e. vertical cooperation) of production-marketing chains. den Ouden et al. believed that production-marketing chains have increased the distance between the consumer and primary producers. This distance may have partly led to conflicting goals and incentives between chain participants. For example, conflicts in the beef production-marketing chain included conflicts and inconsistencies in the overall goal of operation, the valuation

of the animals, and the desired level of information exchanged (Purcell, 1973). Due to these conflicting interests and related discrepancies in communication or coordination, the individual parties in the chain may, by optimizing individually, cause the economic chain as a whole to be inefficient. Therefore, the goods that are produced do not match the preferences of the consumer.

Vertical integration is often posed as a solution to resolve the effects of market failures (den Ouden et al.). Advantages of vertical integration include reduction of transaction costs; technical economies; increased control; economies of information; offset bargaining power and input price distortions; and economies of stable relationships. These advantages can be discounted by several pertinent disincentives. Examples include high capital investment, differing managerial requirements, unbalanced throughput because of differences in efficient scale, possibly missing advantageous external opportunities, and reduced flexibility to change partners.

den Ouden et al. found that by integrating incompletely, a reduction in costs and risk is possible. Incomplete integration or vertical cooperation was defined as vertical relationships between two or more adjacent stages without full ownership or control in which the partners fundamentally maintain their independence, but can share information, coordinate pricing, etc. They elaborated that vertical cooperation was a way of broadening scope without broadening the firm. Subcontracting agreements, franchising, or joint ventures are forms of cooperation. Incentives for vertical cooperation specific to market and production characteristics of agricultural food chains include improved control over product quality and quantity in general and the focus on product

differentiation to supply increasingly discriminating (niche) markets (den Ouden et al.). These last incentives are especially applicable to the beef industry and strategic alliances.

Strategic Alliances

Recently, producers, feeders, packers and retailers have been vertically cooperating in arrangements that have been termed strategic alliances. Alliances can establish agreements between a producer and feeder only or they can link together the entire production-marketing chain. They have been established for a variety of reasons by cooperatives, state NCBA affiliates, breed associations, input suppliers, private firms, and producers. Most have formed in response to changing market conditions or to improve certain breed types, while others are concerned with improving customer satisfaction.

Mighell and Jones identified several theoretical incentives for vertical integration that are applicable to strategic alliances. The list included: reducing risk, reducing costs, improving management, gaining bargaining power, improving market position, assuring adequate inputs, investing surplus reserves, developing new technology and obtaining additional capital. Barkema and Drabentstott, as well as Lyford, identified evolving demand as a motive for integration. They concluded that demand is becoming consumer driven rather than producer oriented. Consumers' tastes and preferences are becoming more specific causing more specific markets to emerge. Today's consumers demand products that taste great, require minimal preparation time and are low in saturated fat and sodium (Barkema).

To supply specialized markets, new food marketing channels are replacing the traditional marketing channels (Barkema and Drabentstott). The traditional marketing

system was responsible for processing and distributing bulk farm commodities to less discriminating consumers. The channels were wider because consumers assumed most of the food processing (i.e. food preparation) roles. The new food marketing channels are narrower because consumers are not willing to perform the processing functions at home. Instead, they prefer that the channel provide them with highly specialized products. Targeting processed foods for more discriminating niche markets demands that product development begin on the farm to ensure that food products are aimed at the narrower processing channels.

Lyford states that developing and serving quality and quantity needed for specific niche markets often requires extensive vertical control and coordination in the vertical production-marketing system. Quality must be served and served consistently to the consumer. Stigler found that with consistent quality, consumers develop product trust and respond with repeat purchases. This will bind the seller and buyer in a continuous exchange that is beneficial for both parties.

Another reason for the formation of strategic beef alliances is pricing. Alliances are moving towards value-based pricing; improving price signaling functions between the stages in the vertical production, processing, distribution channel; overcoming problems with and related to pricing on averages; and reducing adversarial relationships between feeders and packers (Schroeder et al.). The traditional pricing system depends on a well-defined set of grades and quality measurements. In the beef system, the grades and quality measurements are hard to define. Also, there is inevitable subjectivity in human grading of animal carcasses.

With quality and yield grades that are relative and not precise, carcasses of the same grade cannot be expected to be equal. Schroeder et al. found evidence that “variance among eating experiences was great enough within and across each quality grade to have significant probabilities of undesirable eating experiences”. The imprecision of grades has contributed to an inconsistency problem for beef consumers because the pricing system cannot accurately provide signals about what to produce. In order for the pricing system to provide correct signals to producers, exact measurements of desired beef quality characteristics are essential (Schroeder et al.).

In addition to grade quality, the way in which cattle are priced has long been a topic of debate. In the past, cattle were predominately priced on a live weight basis (Schroeder et al.). Live weight pricing reduces how accurately fed cattle prices reflect actual wholesale prices. Research over the last forty years has shown that pricing accuracy increases when cattle are priced on dressed weight and grade. Schroeder et al. referenced research by Jones et al. which showed that differences in live weight prices did not accurately reflect value differences at the wholesale level (Schroeder et al.). An answer to these discrepancies has been suggested: value-based pricing (or value-based marketing). Specifically, grid pricing is designed to improve price discovery and transfer value differences among carcasses (Fitzgerald and Stolle).

Nearly all alliances use a pricing method that involves carcass characteristics. Schroeder et al. see this as a clear attempt to better link prices and quality by paying a premium for better cattle and discounting poorer cattle. They believe the participants within the alliance are sharing information that is not exchanged in a cash market

transaction on a live weight basis. With better information, the value chain could more accurately respond to consumer demand.

Most alliances utilize some type of grid or formula pricing mechanism, but all alliances do not use the same base price or premium and discount schedule. Schroeder et al. concluded that no matter which grid is used, feeders agreed that grid pricing sends clearer price signals about what the marketplace prefers. Research by Ward, Feuz and Schroeder determined the value of pricing cattle on a grid instead of live weight or dressed weight pricing from a producers' welfare perspective and then compared the differences in revenue received for carcasses by pricing method. The researchers assumed that the grid price was an efficient price in the sense that it fully reflected the market value of the carcass. The results showed that large pricing errors existed in both under-pricing and over-pricing carcasses on a live weight selling method compared to grid pricing. The research quantified how poorly average live or average dressed weight pricing is at conveying appropriate pricing signals to cattle feeders.

Alliances are also increasing and improving the flow of information through the production-marketing chain. The cattle industry production-marketing chain is very complex and segmented, with numerous changes in ownership, which cause information to flow very inefficiently (Ward, 1997). This further separates the stages of the production-marketing chain from the consumer (den Ouden et al.). It requires more physical space to raise cattle, which distributes production throughout the country. Also, there are several cattle breeds that supply specialty beef products. In addition, cattle only produce one calf per year, which limits the ability to quickly select quality genetics.

Alliances are attempting to reduce segmentation by linking the vertical production and marketing channels. By cooperating, information about the market, in addition to market prices, should flow more efficiently to channel members because the stages have a common bond – the alliance. Negotiated coordination results in more rapid transmission of information between the various economic stages and helps ensure that the system adjusts to changing consumer demands, economic conditions and technological improvements (Boehlje).

Alliances are helping to reduce the amount of adversarial tension between industry segments. For years, producers and feeders have felt animosity towards packers and vice versa (Smith). Everyone blamed everyone else for low prices and declining market share. There was no cooperation or incentive to cooperate. Production-marketing segments joined by an alliance have a common incentive to make that alliance successful. When someone enters an alliance they do so willingly, thereby reducing rivalry so that value can replace price as a negotiating point (Meyer). With everyone linked together through the alliance, each segment has an incentive to cooperate and share information about consumer preferences.

Alliances are one of the newest answers for potentially increasing profitability within the beef industry. Some industry participants are looking at alliances as the quick solution for increased returns and higher prices. However, as Mighell and Jones established, vertical coordination is not just an end in itself, but a means or tool to accomplish some objective. Past research on alliances by Sartwell categorized them broadly into three groups: (1) breed association sponsored, (2) commercial, and (3) natural/implant-free. Alliances need to be researched further to identify if they are

achieving the degree of cooperation necessary to make lasting improvements not only for producers and themselves, but the industry as a whole. The research conducted for this study will evaluate alliance characteristics and their degree of cooperation so producers can more effectively match his/her operation to an alliance. Koontz and Purcell pointed out that producers cannot simply turn to new marketing alternatives to correct the problem. Producers need better information about alliances so that lasting improvements for them and the industry can be made.

This research will attempt to measure the degree of vertical cooperation of alliances. Many producers join alliances to improve profits by increasing revenue or decreasing costs without considering the characteristics of both their operation and the alliance. Barkema and Drabenstott determined that firm managers must consider transaction frequency, standardization, administrative burden, information technology, asset specificity and uncertainty when making a coordination decision. This research will act as a base for producers to make the most educated evaluations about the preceding considerations.

CHAPTER III

CLASSIFICATION OF STRATEGIC ALLIANCES

The term strategic alliance was used in a general sense because of the popularity of the term in the industry. A few organizations do not classify themselves as a strategic alliance. For this study, strategic alliance is defined by the den Ouden et al. explanation of vertical cooperation: vertical relationships between two or more adjacent stages without full ownership or control in which the partners fundamentally maintain their independence, but can share information, coordinate pricing, etc. This definition best describes the alliances identified. Most alliances have no formal written contract and give participants the option to participate in the alliance. Alliance members share information and coordinate pricing. No member is completely losing his/her autonomy as they would if the alliances were completely vertically integrated.

This chapter presents results of the first known attempt (1) to isolate the various characteristics in an alliance that influence vertical cooperation, (2) to devise a measurement system to analyze the degree of vertical cooperation for each characteristic, and (3) to develop a method for using this measure to classify alliances according to the degree of vertical cooperation they achieve. The procedure utilized was similar to that of Harris and Massey.

The benchmark alliance for the analysis was envisioned as a unit that was vertically cooperating. In terms of the research, it was an organization that had long term

goals, linked all stages of the production-marketing chain, required a high level of commitment (licensing, certification or membership fees), established required management (feeding and/or health) practices, required a specific breed(s), required source verification, targeted a specific branded product program(s), priced animals based on retail market, and provided individual carcass data with interpretation assistance.

Two questions were central in devising the classification system. What characteristics enhanced vertical cooperation between the producer and the alliance? What was the degree to which each characteristic contributed to increased vertical cooperation? As the research progressed, it became evident that several characteristics could not be considered in the study due to lack of available information. For example, originally, evaluations about risk were desired but the information necessary to accurately evaluate this category was not accessible. This characteristic was believed to be important because alliance members should share risks and benefits (Peterson and Wysocki). As a sole proprietor, a producer bears all financial risk. For an alliance to be truly beneficial to all parties, financial risk should be shared. All alliances permitted producers to utilize financing options offered by feedlots to maintain partial ownership of their cattle through the feedyard. Even with this option, the producer still bears all production, price and financial risk.

The characteristics were grouped into four major categories of the production-marketing chain. Initially, the components of the gradation scale for each characteristic represented almost exact wording taken from the alliance representatives, but then it became apparent that for most of the characteristics the gradation scale would have 20 to

30 sub-criteria groups. Therefore, it was necessary to reduce the criteria groups in each characteristic to a few statements that could be compared.

The nine alliance characteristics, grouped under the four categories of the production-marketing chain, are as follows:

A. Organization

1. Objectives
2. Stages of Cooperation
3. Commitment

B. Inputs

1. Breed Specifications
2. Source Verification
3. Management Strategies

C. Marketing

1. Branded Product Program
2. Pricing

D. Information

1. Data

The gradation scale utilized to determine the degree of vertical cooperation achieved by an alliance in each of the above characteristics is discussed in the following paragraphs.

A. Organization

Characteristic 1: Objectives

It was hypothesized that the degree of vertical cooperation achieved by the objectives varies with the scope of the alliance. The wording of the objectives was very

critical to the evaluation. Peterson and Wysocki identified that “for a strategic alliance to exist there must be mutuality in objective identification”. Essentially, the more specific and clear the wording of the objective, the greater the degree of vertical cooperation because a producer can more accurately match his/her goals to the goals of the organization. The focus of the objectives was considered to be the major indicator of cooperation in this category. It was believed that an organization with a long-term focus would contribute more to vertical cooperation than one with a short-term focus. Organizations with long-term focus are more likely to change with future developments. Also, long-term goals demonstrate to a producer that the alliance has interest in improving the industry and benefiting all that are involved, not just the organization.

The objective characteristic included mission statements and goals as well as objectives. Most written objectives used very general and informal language. A few written statements were very direct, clear and concise in their wording.

The two criteria groups for measuring the degree of vertical cooperation based on objectives and the number of alliances meeting these criteria are given below:

Criteria Group	Number of Alliances	Description
A	12	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
B	15	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement

Characteristic 2: Stages Incorporated within the Alliance

The degree of vertical cooperation achieved from the stages incorporated within the alliance stem from the total number of production-marketing stages the alliance links together. The belief was that the greater the number of production-marketing stages included in the alliance, the more valuable the information shared among the chain. It was hypothesized that information would flow more efficiently because the adversarial relationships between each stage would more likely be dissolved through mutual agreement and understanding. The stages of the production-marketing chain observed in this category included (1) seedstock or cow/calf producer, (2) feeder or feedyard, (3) packer, and (4) retailer.

The organizations coordinated the segments of the production cycle in various ways. Some alliances were only concerned with the seedstock or cow/calf producer and helping them to obtain data on their cattle from the feedlot. Others went a step further and included the cattle feeder and/or packer. A few encompassed the entire production chain up to and including retail and/or food service. When this characteristic was evaluated, alliances were considered to be in the high category if they had a specific branded beef program because this demonstrated that they had a relationship with a retailer and that information was being received from the end point closest to the consumer.

The criteria for determining the degree to which these stages achieve vertical cooperation and the number of alliances meeting each criterion are listed below:

Criteria Group	Number of Alliances	Description
A	5	Incorporates any two stages
B	10	Incorporates any three stages
C	12	Incorporates all production-marketing stages

Characteristic 3: Commitment

The level of commitment is an indication of the degree of vertical cooperation an alliance achieves. Commitment was believed to be important because it contributes to the stability and longevity of the alliance. Ward (1977) found that the greater the level of commitment by a producer to a marketing cooperative, the greater the probability of the organization being an efficient and effective competitor that “provides the opportunity for the organization to develop innovative, forward-looking marketing strategies”. Parties in a strategic alliance must invest significant time and commitment to building and maintaining beneficial relationships (Peterson and Wysocki). Stability and longevity are necessary for strategic alliances to be successful. The greater the level of commitment by the participants within the alliance, the more stable the relationship should be. For example, if a producer is willing to become certified or licensed, he or she has greater incentive to make sure the alliance is successful. The same holds true if the producer must make capital requirements or be subject to non-performance penalties. The level of commitment was derived from (1) formality of arrangements, (2) quantity commitment and (3) capital requirements for participation.

Formality was seen as a spectrum. On one end was an informal arrangement while on the other end was a very formal arrangement. An informal arrangement had no contract, essentially a verbal agreement. The formal arrangements were either licensing agreements or some form of certified affidavit. In the middle arrangements included written memberships and participation agreements.

Quantity commitment was considered to be an important factor in the commitment characteristic. Quantity commitment improves vertical cooperation in three

ways. First, if an alliance is linked with a processing outlet, volume may be important to reduce costs. Second, if an alliance is targeting a specific branded product program, quantity commitments allow enhanced control over the supply of the product. Lastly, a producer who is willing to make a quantity commitment to one outlet has increased interest in the success of that outlet.

The analysis of capital requirements was based on numeric requirements for participation. Most alliances require some fee for producers to receive information about the cattle that were marketed. The fees in this category consisted only of payments made either to be a member or to have access to participate in the alliance. The fees ranged from \$1.00 per ear tag to \$2,500.00 for an organizational alliance membership. Regardless of the amount paid, the researchers believed the level of commitment was increased. The greater the capital requirement, the greater the incentive for the producer to help the alliance be successful.

The criteria for determining the degree to which commitment achieves vertical cooperation and the number of alliances meeting each criterion are listed below:

Criteria Group	Number of Alliances	Description
A	12	Oral participation agreement and no membership fees
B	7	Written membership or written participation agreement and no membership fees
C	8	Licensing, non-participation penalties, exclusive participation, certified affidavit and/or membership fees

B. Inputs

Characteristic 1: Breed Specifications

The genetic base for cattle is widening, causing a further agglomeration of the genetic base (Ward, 1997). Every breed has desirable genetics but there is no easy way of identifying many of those desirable traits in commercial cattle operations. Such a broad genetic base and lack of control over the selection of genetics have contributed to lack of consistency in fresh beef products. A major breakthrough in identifying the genetics which produce beef having the eating quality consumers desire is necessary. The result would be increased control over quality and consistency of beef products and a reduction in genetic variation in cattle (Ward, 1997).

Breed specifications were considered important because they are a first step in attempting to reduce variability. The correlation between reduced breed variability and improved consistency is not yet known. Reducing the number of breeds may help limit the search for desirable carcass traits. Specifying breeds is just a beginning because there is as much variability within breeds as among breeds.

Breed specifications increase vertical cooperation because they help establish mutual interest between the alliance participants. Cattlemen who produce cattle of the same breed have something in common. Also, they might communicate better because they have similar interests in the breed.

The criteria for determining the degree to which breed specifications achieve vertical cooperation and the number of alliances meeting each criterion are listed below:

Criteria Group	Number of Alliances	Description
A	5	No breed specification
B	5	No Brahman or dairy
C	3	Specific breed group(s)
D	14	Specific breed(s)

Characteristic 2: Source Verification

Source verification is important to vertical cooperation from a longevity standpoint because of the growing importance for animal identification from conception to consumption. Source verification also increases the value of the information being exchanged in the alliance. Some alliances require as much information as they can get from a producer. Others only require the name of the producer or the sire information. Distinctions as to the degree of source verification could not accurately be made. Therefore, the characteristic was evaluated on the basis of “yes” (source verification required) or “no” (source verification not required). A “yes” answer showed motivation to move in the direction that would be an improvement for the beef industry in the long term.

The criteria for determining the degree to which source verification achieves vertical cooperation and the number of alliances meeting each criterion are listed below:

Criteria Group	Number of Alliances	Description
A	12	None required
B	15	Required

Characteristic 3: Management Strategies

Management strategies enhance vertical cooperation because they show cooperation and commitment. If the production-marketing chain is to cooperate effectively, the chain must share information about the market. Producers know production and marketers know consumers, so perhaps sharing information means improving management practices to produce animals which more accurately and consistently meet consumers' desires. This suggests a producer is open to constructive criticism. By improving management, a chain reaction could occur that would be beneficial for all. The key to this characteristic is cooperation, not domination. Also, management strategies demonstrate commitment because the producer places the organization's objectives ahead of his/her personal objectives.

This category included evaluations of three management areas: feeding, health, and growth. Alliances in Criteria Group B included optional or general management practices which included: optional preconditioning program(s), recommended vaccination regimen(s), selected feedyards, and/or BQA practices. These management strategies are less rigid than the strategies represented in Criteria Group C. Criteria Group C alliances included specific and substantial practices such as specific grazing principles, mandatory purchases from specified manufactures, particular feedyard(s), and/or hormone and antibiotic restrictions. It was believed that specific management practices could help eliminate variability in production outputs to a greater degree than general management options. This category was not a ranking of the quality of management help, but rather was centered on reducing variability in production.

Management strategies were considered important because they are another step in attempting to reduce variability. The correlation between management strategies and improved end product consistency is not yet known. Established management practices are just a beginning because there are several other factors that can effect production variability.

The criteria for determining the degree to which management strategies achieve vertical cooperation and the number of alliances meeting each criterion are listed below:

Criteria Group	Number of Alliances	Description
A	11	Alliance does not stipulate specific or general management practices
B	11	Some optional or required general management practices
C	5	Alliance stipulates substantial, specific management practices

C. Marketing

Characteristic 1: Pricing

Pricing is an issue that stimulates much discussion in the beef industry. In the past, cattle have been priced on a live or dressed weight basis. This has led cattle to be priced on averages. In recent years, traditional methods are being replaced by grid pricing methods. Grid pricing prices cattle on individual merit, thereby improving pricing accuracy (Ward, Feuz and Schroeder). Using a base price as the standard, better quality cattle are rewarded and poorer cattle are penalized.

For this research, only the pricing method and base price were analyzed. Most alliances utilize grid pricing methods. Although they use the same pricing method, each one has established their own base price. Base price methods included average price

(cost) of cattle purchased by the slaughtering plant for the week prior to or the week of slaughter, specific market reports, such as the highest reported price for a specific geographic market for the week prior to or week of slaughter, or a formula tied to retail prices.

Base prices that are a function of plant averages have many potential problems. These types of base price formulations reduce the availability of prices which can be reported, do not contribute to price discovery, change across plants as the quality of cattle slaughtered changes, may not be representative of the cattle being marketed using a grid, and are subject to possible manipulation by the packer (Ward, Feuz and Schroeder).

There are alternative base price methods that would alleviate some of the concerns with base prices tied to plant averages. One possibility is to tie the base price to the reported wholesale boxed beef cutout or to reported boxed beef prices (Ward, Feuz and Schroeder). Another alternative would be to tie the base price to a futures market price, an alternate market for price discovery. These alternatives are not as susceptible to thin trading or moving randomly in ways not reflective of market conditions. Formulas based on wholesale boxed beef cutout or live cattle futures are both inexpensive to negotiate and yet are representative of market conditions (Ward, Feuz and Schroeder).

Improved control over product quality and quantity in general and focus on product differentiation to supply increasingly discriminating (niche) markets may be considered primary motivations for vertical cooperation in U.S. agricultural production-marketing chains in the United States (den Ouden et al.). Therefore, pricing methods which better identify and reward quality are contributing to improved vertical coordination. Base price alternatives such as wholesale boxed beef cutout or live cattle

futures are improving vertical cooperation more than those formulas which are based on plant averages or reported live or dressed weight prices.

The criteria for determining the degree to which pricing achieves vertical cooperation and the number of alliances meeting each criterion are listed below:

Criteria Group	Number of Alliances	Description
A	8	Live or dressed weight price, depends on ownership option, or varies by marketing program
B	16	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
C	3	Direct tie to retail, negotiated base price or a base price tied to wholesale or futures markets

Characteristic 2: Branded Product Program

den Ouden et al. suggested that improved control over quality and the focus on product differentiation to supply increasingly discriminating (niche) markets are primary motivating factors for vertical cooperation. By this rationale, researchers believed this characteristic to be important. A branded product program serves as a goal. The branded product program is also a direct link to consumer preferences. By linking with a branded product program, the value of the information a producer receives is higher and the probability of being able to make changes that will meet consumers' desires is increased. This characteristic also addresses another long-term problem for the industry – new products. A branded product program demonstrates the desire of an alliance to improve the industry.

Criteria Group C included alliances that targeted one retailer's or one packer's branded product program(s). This differed from Criteria Group B which included

alliances that targeted more than one retailer's or packer's program(s). Alliances in Criteria Group C could have better control over quantity and quality because the target is very well defined. Expanding the target to include more than one retailer's or packer's branded product program(s), could make controlling quantity and quality more cumbersome due to an increase in production-marketing participants.

The criteria for determining the degree to which a branded product program achieves vertical cooperation and the number of alliances meeting each criterion are listed below:

Criteria Group	Number of Alliances	Description
A	5	Not aimed at any branded product program
B	11	Open to several product lines or other alliances
C	11	Aimed at specific branded product program(s)

D. Information

Characteristic 1: Data

One way vertical cooperation benefits organizations is by sharing information (den Ouden et al.). Information is not data. Data are raw numbers. Information is data which has been interpreted. Accumulating numbers alone, such as kill sheet data, will not help producers or the industry. Rather, the entire production-marketing chain should understand what the kill sheet data are telling them or not telling them and make corresponding changes in production or marketing. Alliances which help producers interpret data are truly sharing information.

Originally, evaluations of the interpretation assistance or decision making help an alliance provided to the producer was desired, but the information necessary to accurately evaluate this category was not accessible.

The criteria for determining the degree to which information achieves vertical cooperation and the number of alliances meeting each criterion are listed below:

Criteria Group	Number of Alliances	Description
A	1	Varies by feedlot and marketing program used, no interpretation assistance
B	1	General carcass and general feedlot data supplied by feedlot not alliance, no interpretation
C	25	Individual carcass data, interpretation assistance

CHAPTER IV

RESULTS

Information was taken from twenty-seven alliances and various scoring methods were applied to assess the degree of vertical cooperation achieved. The scoring methods are summarized in Table 1. The results of the scoring schemes are recorded in Table 2. The range of scores was different for each scoring method. Yet, no matter which scoring method was used, the range of scores was a continuum from less vertical cooperation to more vertical cooperation. There were never any large breaks in the continuum of scores. Alliances were ranked according to total number of points per scoring method. In the case of ties among some scores, each of the tied scores was given the average of the ranks involved. All alliances ranked exactly the same using scoring procedures B and C. There were some slight rank changes using scoring method A, but nothing significant. These results are not a ranking of alliances from worst to best. The results show that there are gradual differences among the twenty-seven alliances.

Spearman rank correlation tests were conducted for scoring methods A, B, and C (Table 3). The results showed that there was perfect correlation between methods B and C. This was expected because method C was simply the inverse of B. The correlation coefficients for A and B and A and C were identical and almost one ($R_s = .9796$). Therefore, there was very high correlation between all methods. After the correlation tests were completed, method B and the weighting schemes associated with that method

were selected for further analysis. A mean rank was calculated using the ranks from scoring method B and the three weighting schemes associated with method B (Table 4).

Among the weighting schemes associated with scoring method B, there were some rank differences. All movements were slight, but they demonstrated how emphasis on certain characteristics could alter the rank in some cases or not have any effect in others. Spearman rank correlation tests were performed between scoring method B and weighting schemes D, E, and F. There was high correlation between all methods. Then, correlation tests were performed between weighting methods D, E, and F that were associated with scoring procedure B. The correlation between D and E ($R_s = .9631$) and D and F ($R_s = .9322$) was high and not (statistically) significantly different. The correlation between E and F ($R_s = .8628$), while not as high, was still not significantly different.

CHAPTER V

IMPLICATIONS

This study focused on strategic alliances in the beef industry as a vertical cooperation option. Strategic alliances are quickly becoming more predominant as businesses in the beef industry attempt to improve marketing channel coordination. Since alliances are relatively new, research about them is limited.

Data and information for this study were collected from the individual alliances during October 1997 – April 1999. The information collected from the alliances represents a “snap-shot” in time. Attempts were made to obtain complete information from the alliances. Once complete information was acquired, an outline was faxed to the alliance for a representative to review. This allowed the alliance to add additional information or remove incorrect information. After receiving the reviewed outline, no further attempts were made to contact an alliance representative.

The collected data from twenty-seven strategic alliances was evaluated using six scoring methods. The scores calculated for the alliances formed a gradual continuum. Rank correlation tests were conducted between each combination of the six methods. Mean ranks were then calculated for each alliance.

The primary question to be answered in this study was focused on the degree of vertical cooperation strategic alliances were attaining. Research findings indicate that: (1) there are no significant groups of alliances that have significantly better or worse

vertical cooperation based on the characteristics selected for evaluation, (2) alliances range on a continuum from low to medium to high vertical cooperation, and (3) no matter which scoring method was used, the overall rankings did not change significantly.

The information collected from this study has implications for the beef industry as a whole. First, alliances are overcoming adversarial tensions between stages in the production-marketing chain by joining producers, feeders, packers, and retailers. Second, by cooperating, information about what consumers desire can more efficiently flow through the production-marketing chain. The information characteristic in this research showed that producers are receiving data about their cattle and interpretation assistance from alliances. With better information, the entire chain can refine its operations to best provide desirable products to consumers. Third, alliances are attempting to improve pricing issues in the industry such as price discovery and value-based pricing. As the research shows, some alliances are finding ways to tie their base price to retail, wholesale or futures markets. Base prices calculated from these three sources are improvements over base prices that are tied to plant averages (Ward, Feuz, and Schroeder).

Alliances are moving the beef industry in the right direction, but they are not the only solution. It is yet to be seen whether alliances are a transition or an end. All alliances included in this study were constantly searching for ways to improve their business and help their members. By focusing on the future and not on the past, alliances are able to change and adapt to consumer demands.

The results from this research could also be beneficial to alliances. An alliance can examine the mean ranking continuum to evaluate where it lies in relation to other alliances in the industry. It is important to point out that the continuum is not a ranking

of least to best alliances. It is a continuum of less vertical cooperation to more vertical cooperation. When evaluating the ranking continuums by each scoring method, the alliance can evaluate how emphasis on specific characteristics or categories affects their ranking. For instance, are they stronger in the marketing category than the input category? If so, are there means to improve the input category or are there other categories not discussed in the study that are more important to their organization?

For a producer, this research could serve as an investigative tool. The characteristics examined in the study are some basic areas to consider when making decisions about joining alliances and which alliance to join. These characteristics may not be the only ones a producer might consider. There may be others that producers find pertinent that were not addressed in this study due to inadvertent omissions or lack of available information. Based on the characteristics and categories evaluated in this research, a continuum of alliances exists. The differences between alliance rankings can make a potential difference to a producer. For instance, the characteristic for stages incorporated within the alliance has three criteria groups: (1) incorporates any two stages, (2) incorporates any three stages, or (3) incorporates all production-marketing stages. There is only a point difference between each class but the difference from a producer perspective may be greater. If a producer does not have any information about how his/her cattle perform, joining an alliance that incorporates all stages may not be the most beneficial. Rather, if the producer selects an alliance that joins the cow/calf producer with a feedlot, he/she can begin to collect information about cattle feedlot performance. Then, once he/she knows more about the cattle herd, the producer may benefit from an alliance that further links the production-marketing chain.

If a producer does know how his/her cattle perform, this research can also be beneficial as well. One characteristic that would be of interest to this producer might be branded product program. This characteristic has three criteria groups: (1) not aimed towards any branded program, (2) open to several product lines or other alliances, or (3) aimed towards a specific branded product program(s). For a producer who has information about how his/her cattle are performing, alliances incorporating either the second or third option might be more beneficial to the producer.

From an economic perspective, alliances are believed to reduce individual stage optimization and increase the efficiency of the interrelated economic chain. Parties in an alliance have common goals which eliminate past industry problems of conflicting interests. Communication between the stages involved in the alliance should be enhanced because the distance between chain participants is bridged. By improving communication and reducing conflicting interests, the focus turns to optimizing the economic chain. Optimizing the economic chain increases the probability of producing goods that match consumer preferences.

Alliances that incorporate specific branded beef programs increase control over product quality and quantity in order to supply increasingly discriminating (niche) markets. Better control enables alliances to provide desirable products consistently to consumers. By improving consistency, consumers are more likely to respond with repeat purchases.

Future research needs to be conducted on alliances. Specifically, future research needs to analyze the value of the interpretation assistance provided to producers. Currently, all alliances provide interpretation assistance, but available information about

the type of assistance is limited or not available. Also, research should be conducted to evaluate risk and benefit sharing between the producer and the alliance. Producers need to have information about how risk and benefits are shared before they enter an alliance. As a sole proprietor, the producer bears all risk. If joining an alliance does not distribute risk then the producer is no better off by joining an alliance, from the perspective of minimizing risk. Alliances are still relatively new in the industry, but as they grow in size and importance they will present more opportunities for participation, and more research will be needed regarding their effectiveness.

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TABLE 1: DESCRIPTION OF SCORING PROCEDURES

Unweighted Scoring Procedure	Description
A	A 2-4 scale: if two criteria groups, then numerical scores were 2 or 4; if three criteria groups, numerical scores were 2 to 4; if four criteria groups, numerical scores were 1 to 4.
B	A four point maximum scale: if two criteria groups, then numerical scores were 3 to 4; if three criteria groups, numerical scores were 2 to 4; if four criteria groups, numerical scores were 1 to 4.
C	A floating maximum scale: if two criteria groups, numerical scores were 1 to 2; if three criteria groups, numerical scores were 1 to 3; if four criteria groups, numerical scores were 1 to 4.
Weighted Scoring Procedure in conjunction with B and C.	Description
D	An equal weighting of categories: organization and inputs characteristics received no additional weight, information scores were tripled, and marketing characteristics were multiplied by 3/2.
E	Varying weights of categories: organization, marketing, and information scores were doubled; inputs received no additional weight.
F	Varying weights of selected criteria groups: breed specifications, source verification, management strategies, pricing and data scores were doubled; all other criteria groups were not weighted.

TABLE 2: INDIVIDUAL SCORING RESULTS

Alliance	Scoring Method	Total Points	Rank
American Salers	A	24	20.5
	B	25	21
	C	15	21
	DB	33.5	25.5
	DC	20.5	25.5
	EB	41	23
	EC	24	23
	FB	39	22
	FC	24	22
Angus America	A	31	7
	B	31	8.5
	C	21	8.5
	DB	42.0	9
	DC	29.0	9
	EB	52	9
	EC	35	9
	FB	48	9
	FC	33	9
Angus GeneNet	A	30	10.5
	B	30	13.5
	C	20	13.5
	DB	41.0	15
	DC	28.0	15
	EB	50	15
	EC	33	15
	FB	47	11.5
	FC	32	11.5
Beef Charolais	A	27	18
	B	28	18
	C	18	18
	DB	38.5	18
	DC	25.5	18
	EB	45	18
	EC	28	18
	FB	46	15
	FC	31	15
Beef Works	A	30	10.5
	B	30	13.5
	C	20	13.5
	DB	40.5	16
	DC	27.5	16
	EB	49	16

TABLE 2: CONTINUED

Alliance	Scoring Method	Total Points	Rank
Beef Works (cont.)	EC	32	16
	FB	48	9
	FC	33	9
Cenex Land O'Lakes	A	22	25
	B	24	25
	C	14	25
	DB	34.5	23
	DC	21.5	23
	EB	40	24.5
	EC	23	24.5
	FB	38	25
	FC	23	25
Certified Angus Beef	A	32	4
	B	33	3
	C	23	3
	DB	45.0	1
	DC	32.0	1
	EB	57	1
	EC	40	1
	FB	50	4
	FC	35	4
Certified Hereford Beef	A	32	4
	B	33	3
	C	23	3
	DB	44.5	3
	DC	31.5	3
	EB	56	3
	EC	39	3
	FB	50	4
	FC	35	4
Coleman Natural Beef	A	28	17
	B	30	13.5
	C	20	13.5
	DB	41.5	12
	DC	28.5	12
	EB	51	12.5
	EC	34	12.5
	FB	46	15
	FC	31	15
Decatur Beef Alliance	A	24	20.5
	B	25	21
	C	15	21

TABLE 2: CONTINUED

Alliance	Scoring Method	Total Points	Rank
Decatur Beef Alliance (cont.)	DB	35.5	21
	DC	22.5	21
	EB	42	21
	EC	25	21
	FB	40	19
	FC	25	19
Farmland Supreme	A	32	4
	B	33	3
	C	23	3
	DB	44.5	3
	DC	31.5	3
	EB	56	3
	EC	39	3
	FB	50	4
Gelbvieh Alliance	FC	35	4
	A	21	27
	B	23	27
	C	13	27
	DB	33.5	25.5
	DC	20.5	25.5
	EB	40	24.5
	EC	23	24.5
	FB	36	27
	FC	21	27
	Hi-Pro Producer's Edge	A	22
B		24	25
C		14	25
DB		34.0	24
DC		21.0	24
EB		39	26.5
EC		22	26.5
FB		39	22
Laura's Lean Beef	FC	24	22
	A	33	1.5
	B	33	3
	C	23	3
	DB	44.0	5.5
	DC	31.0	5.5
	EB	54	6
	EC	37	6
	FB	51	1.5
FC	36	1.5	

TABLE 2: CONTINUED

Alliance	Scoring Method	Total Points	Rank
Lean Limousin Beef	A	30	10.5
	B	31	8.5
	C	21	8.5
	DB	42.5	7.5
	DC	29.5	7.5
	EB	51	12.5
	EC	34	12.5
	FB	49	6.5
	FC	34	6.5
Maverick Ranch Beef	A	29	14.5
	B	30	13.5
	C	20	13.5
	DB	41.5	12
	DC	28.5	12
	EB	51	12.5
	EC	34	12.5
	FB	46	15
	FC	31	15
MFA Alliance Advantage	A	23	23
	B	25	21
	C	15	21
	DB	35.5	21
	DC	22.5	21
	EB	42	21
	EC	25	21
	FB	39	22
	FC	24	22
Michigan Beef Alliance	A	33	1.5
	B	33	3
	C	23	3
	DB	44.5	3
	DC	31.5	3
	EB	55	5
	EC	38	5
	FB	51	1.5
	FC	36	1.5
Monfort Integrated Genetics	A	29	14.5
	B	29	17
	C	19	17
	DB	40.0	17
	DC	27.0	17
	EB	48	17

TABLE 2: CONTINUED

Alliance	Scoring Method	Total Points	Rank
Monfort Integrated Genetics (cont.)	EC	31	17
	FB	46	15
	FC	31	15
MoorMan's Value Trac	A	24	20.5
	B	25	21
	C	15	21
	DB	36.0	19
	DC	23.0	19
	EB	43	19
	EC	26	19
	FB	39	22
	FC	24	22
Nebraska Corn-Fed Beef	A	29	14.5
	B	30	13.5
	C	20	13.5
	DB	41.5	12
	DC	28.5	12
	EB	52	9
	EC	35	9
	FB	46	15
	FC	31	15
Oregon Country Beef	A	31	7
	B	32	6
	C	22	6
	DB	44.0	5.5
	DC	31.0	5.5
	EB	56	3
	EC	39	3
	FB	48	9
	FC	33	9
Precision Beef Alliance	A	31	7
	B	31	8.5
	C	21	8.5
	DB	41.5	12
	DC	28.5	12
	EB	52	9
	EC	35	9
	FB	47	11.5
	FC	32	11.5
Premium Gold Angus	A	30	10.5
	B	31	8.5
	C	21	8.5

TABLE 2: CONTINUED

Alliance	Scoring Method	Total Points	Rank	
Premium Gold Angus (cont.)	DB	42.5	7.5	
	DC	29.5	7.5	
	EB	51	12.5	
	EC	34	12.5	
	FB	49	6.5	
	FC	34	6.5	
Red Angus Feeder Calf Certification	A	22	25	
	B	24	25	
	C	14	25	
	DB	30.5	27	
	DC	17.5	27	
	EB	39	26.5	
	EC	22	26.5	
	FB	37	26	
	FC	22	26	
U.S. Premium Beef	A	29	14.5	
	B	30	13.5	
	C	20	13.5	
	DB	41.5	12	
	DC	28.5	12	
	EB	53	7	
	EC	36	7	
	FB	44	18	
	FC	29	18	
	Western Beef Alliance	A	24	20.5
		B	25	21
C		15	21	
DB		35.5	21	
DC		22.5	21	
EB		42	21	
EC		25	21	
FB		39	22	
FC		24	22	

TABLE 3: SPEARMAN RANK CORRELATION COEFFICIENTS

Correlation Test	R_s	t statistic
A to B	.9796	24.3858
B to C	1.000	NA
A to C	.9796	24.3858
B to DB	.9758	22.3060
B to EB	.9533	15.7822
B to FB	.9638	18.0832
DB to EB	.9631	17.8818
DB to FB	.9322	12.8727
EB to FB	.8628	8.5315

TABLE 4: ALLIANCE MEAN RANKS

Alliance	Mean Rank	Scoring Method Rankings			
		B	DB	EB	FB
Certified Angus Beef	2.3	3.0	1.0	1.0	4.0
Michigan Beef Alliance	3.1	3.0	3.0	5.0	1.5
Certified Hereford Beef	3.3	3.0	3.0	3.0	4.0
Farmland Supreme	3.3	3.0	3.0	3.0	4.0
Laura's Lean Beef	4.0	3.0	5.5	6.0	1.5
Oregon Country Beef	5.9	6.0	5.5	3.0	9.0
Lean Limousin	8.8	8.5	7.5	12.5	6.5
Premium Gold Angus Beef	8.8	8.5	7.5	12.5	6.5
Angus America	8.9	8.5	9.0	9.0	9.0
Precision Beef Alliance	10.3	8.5	12.0	9.0	11.5
Nebraska Corn Fed Beef	12.4	13.5	12.0	9.0	15.0
U.S. Premium Beef	12.6	13.5	12.0	7.0	18.0
Coleman Natural	13.3	13.5	12.0	12.5	15.0
Maverick Ranch	13.3	13.5	12.0	12.5	15.0
Beef Works	13.6	13.5	16.0	16.0	9.0
Angus GeneNet	13.8	13.5	15.0	15.0	11.5
Monfort Integrated Genetics	16.5	17.0	17.0	17.0	15.0
Beef Charolais	17.3	18.0	18.0	18.0	15.0
Moorman's Value Trac	20.3	21.0	19.0	19.0	22.0
Decatur Beef	20.5	21.0	21.0	21.0	19.0
MFA Alliance Advantage	21.3	21.0	21.0	21.0	22.0
Western Beef Alliance	21.3	21.0	21.0	21.0	22.0
American Salers	22.9	21.0	25.5	23.0	22.0
Cenex Land O'Lakes	24.4	25.0	23.0	24.5	25.0
Hi Pro Producers Edge	24.4	25.0	24.0	26.5	22.0
Gelbvieh Alliance	26.0	27.0	25.5	24.5	27.0
Red Angus Feeder Calf Certification	26.1	25.0	27.0	26.5	26.0

APPENDIX A: ORIGINAL CHARACTERISTIC OUTLINE

- I. General
 - A. Start Date -
 - B. Objective (Goals) -
 - C. Alliance Size (number of members) –
 - D. Location -
 - E. Stages – Firms –
 - F. Contract/Ownership
 - 1. Written/oral -
 - 2. Minimum longevity of commitment -
 - 3. Minimum number of head -
 - G. Costs
 - 1. Membership
 - a. Flat Fee –
 - b. Per head -
- II. Production
 - A. Breed Requirements -
 - B. Genetic Requirements -
 - C. Unique Features -
 - 1. Licensing/certification -
 - 2. Seedstock selection -
 - D. Management Practices
 - 1. Growth hormones -
 - 2. Feed program -
 - 3. Health program -
 - 4. Brand Location -
 - 5. Identification System -
 - 6. Sorting/Handling -
 - E. Product Branding -

- III. Marketing
 - A. Pricing
 - 1. Base -
 - 2. Specifications -
 - 3. Carcass -
 - 4. Retail -
 - 5. Premiums/Discounts -
 - B. Marketing Strategy – Positioning -
 - C. Risk Management -
- IV. Financing
 - A. Minimum Capital Requirements -
 - B. Financing -
- V. Unique Features
 - A. Licensing and Certification -
- VI. Information/Decision Making
 - A. Type of Information Exchanged -
 - B. Decision Sharing (risk) -
 - C. Type of Interpretation Assistance –

APPENDIX B: INDIVIDUAL ALLIANCE OUTLINES

The left column displays the nine identified characteristics. The right column displays the description of the criteria group into which the alliance was placed.

American Salers

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates any two stages
Commitment	Oral participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	None required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Live or dressed weight price, depends on ownership option or varies by marketing program
Data	General carcass and general feedlot data supplied by feedlot not alliance, no interpretation

Angus America

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Licensing, non-participation penalties, exclusive participation, certified affidavit and/or membership fees
Breed Specifications	Specific breed(s)
Source Verification	Required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Angus GeneNet

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Written membership or written participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	Required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Beef Charolais

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Oral participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	Required
Management Strategies	Some optional or required general management practices
Branded Product Program	Not aimed at any branded product program
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Beef Works

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Written membership or written participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	Required
Management Strategies	Some optional or required general management practices
Branded Product Program	Not aimed at any branded product program
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Cenex Land O'Lakes

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates any two stages
Commitment	Oral participation agreement and no membership fees
Breed Specifications	Specific breed group(s)
Source Verification	None required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Live or dressed weight price, depends on ownership option or varies by marketing program
Data	Individual carcass data, interpretation assistance

Certified Angus Beef

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Licensing, non-participation penalties, exclusive participation, certified affidavit and/or membership fees
Breed Specifications	Specific breed(s)
Source Verification	None required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Direct tie to retail, negotiated base price or a base price tied to wholesale or futures markets
Data	Individual carcass data, interpretation assistance

Certified Hereford Beef

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Licensing, non-participation penalties, exclusive participation, certified affidavit and/or membership fees
Breed Specifications	Specific breed(s)
Source Verification	None required
Management Strategies	Some optional or required general management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Coleman Natural Beef

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Written membership or written participation agreement and no membership fees
Breed Specifications	No Brahman or dairy
Source Verification	None required
Management Strategies	Alliance stipulates substantial specific management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Decatur Beef Alliance

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Oral participation agreement and no membership fees
Breed Specifications	No breed specifications
Source Verification	Required
Management Strategies	Some optional or required general management practices
Branded Product Program	Not aimed at any branded product program
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Farmland Supreme

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Licensing, non-participation penalties, exclusive participation, certified affidavit and/or membership fees
Breed Specifications	Specific breed(s)
Source Verification	None required
Management Strategies	Some optional or required general management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Gelbvieh Alliance

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Oral participation agreement and no membership fees
Breed Specifications	No breed specifications
Source Verification	None required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Not aimed at any branded product program
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Hi-Pro Producer's Edge

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates any two stages
Commitment	Oral participation agreement and no membership fees
Breed Specifications	No Brahman or dairy
Source Verification	None required
Management Strategies	Alliance stipulates substantial, specific management practices
Branded Product Program	Not aimed at any branded product program
Pricing	Live weight or dressed price, depends on ownership option or varies by marketing program
Data	Individual carcass data, interpretation assistance

Laura's Lean Beef

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Written membership or written participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	Required
Management Strategies	Alliance stipulates substantial, specific management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Live weight or dressed price, depends on ownership option or varies by marketing program
Data	Individual carcass data, interpretation assistance

Lean Limousin

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Written membership or written participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	Required
Management Strategies	Some optional or required general management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Maverick Ranch Beef

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Oral participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	None required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

MFA Alliance

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates only any two stages
Commitment	Written membership or written participation agreement and no membership fees
Breed Specifications	No breed specifications
Source Verification	None required
Management Strategies	Alliance stipulates substantial, specific management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Live or dressed weight price, depends on ownership option or varies by marketing program
Data	Individual carcass data, interpretation assistance

Michigan Beef Alliance

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Written membership or written participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	Required
Management Strategies	Some optional or required general management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Monfort Integrated Genetics

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all three stages but not all
Commitment	Oral participation agreement and no membership fees
Breed Specifications	Specific breed group(s)
Source Verification	Required
Management Strategies	Some optional or required general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

MoorMan's Value Trac

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Oral participation agreement and no membership fees
Breed Specifications	No breed specifications
Source Verification	Required
Management Strategies	Alliances does not stipulate specific or general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Nebraska Corn-Fed Beef

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Licensing, non-participation penalties, exclusive participation certified affidavit, and/or membership fees
Breed Specifications	No Brahman or dairy
Source Verification	None required
Management Strategies	Some optional or required general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Direct tie to retail, negotiated base price or a base price tied to wholesale or futures markets
Data	Individual carcass data, interpretation assistance

Oregon Country Beef

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Licensing, non-participation penalties, exclusive participation certified affidavit, and/or membership fees
Breed Specifications	No breed specifications
Source Verification	None required
Management Strategies	Alliance stipulates substantial, specific management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Direct tie to retail, negotiated base price or a base price tied to wholesale or futures markets
Data	Individual carcass data, interpretation assistance

Precision Beef Alliance

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Licensing, non-participation penalties, exclusive participation certified affidavit, and/or membership fees
Breed Specifications	Specific breed groups(s)
Source Verification	Required
Management Strategies	Some optional or required general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Live or dressed weight price, depends on ownership option or varies by marketing program
Data	Individual carcass data, interpretation assistance

Premium Gold

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Oral participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	Required
Management Strategies	Some optional or required general management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

Red Angus Feeder Calf Certification

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates any three stages but not all
Commitment	Oral participation agreement and no membership fees
Breed Specifications	Specific breed(s)
Source Verification	None required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Live or dressed weight price, depends on ownership option or varies by marketing program
Data	Varies by feedlot and marketing program used, no interpretation assistance

U.S. Premium Beef

Objectives	Objectives mention customer focus, improved communication between stages, exchange of information, value based marketing, the beef production chain, aim towards beef industry improvement, or focus on product enhancement
Stages of Cooperation	Incorporates all production-marketing stages
Commitment	Licensing, non-participation penalties, exclusive participation certified affidavit, and/or membership fees
Breed Specifications	No Brahman or dairy
Source Verification	None required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Aimed at specific branded product program(s)
Pricing	Grid or formula base price tied to an average live or dressed weight price, plant average, or other reported prices
Data	Individual carcass data, interpretation assistance

^a U.S. Premium Beef does not classify itself as an alliance but rather as a fully integrated, consumer driven beef processing company

Western Beef Alliance

Objectives	Objectives do not have a customer focus, do not mention improved communication, only exchange of data, only focus on one or two production stages, focus solely on breed improvement or focus on increased revenue
Stages of Cooperation	Incorporates any two stages
Commitment	Written membership or written participation agreement and no membership fees
Breed Specifications	No Brahman or dairy
Source Verification	Required
Management Strategies	Alliance does not stipulate specific or general management practices
Branded Product Program	Open to several product lines or other alliances
Pricing	Live or dressed weight price, depends on ownership option or varies by marketing program
Data	Individual carcass data, interpretation assistance

APPENDIX C: INDIVIDUAL SCORING RESULTS AND RANKS

Alliance	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank			
American Salers	A	24	20.5	B	25	21.0	C	15	21.0	DB	33.5	25.5	DC	20.5	25.5	EB	41	23.0	EC	24	23.0	FB	39	22.0	FC	24	22.0
Angus America	A	31	7.0	B	31	8.5	C	21	8.5	DB	42.0	9.0	DC	29.0	9.0	EB	52	9.0	EC	35	9.0	FB	48	9.0	FC	33	9.0
Angus GeneNet	A	30	10.5	B	30	13.5	C	20	13.5	DB	41.0	15.0	DC	28.0	15.0	EB	50	15.0	EC	33	15.0	FB	47	11.5	FC	32	11.5
Beef Charolais	A	27	18.0	B	28	18.0	C	18	18.0	DB	38.5	18.0	DC	25.5	18.0	EB	45	18.0	EC	28	18.0	FB	46	15.0	FC	31	15.0
Beef Works	A	30	10.5	B	30	13.5	C	20	13.5	DB	40.5	16.0	DC	27.5	16.0	EB	49	16.0	EC	32	16.0	FB	48	9.0	FC	33	9.0
Cenex Land O'Lakes	A	22	25.0	B	24	25.0	C	14	25.0	DB	34.5	23.0	DC	21.5	23.0	EB	40	24.5	EC	23	24.5	FB	38	25.0	FC	23	25.0
Certified Angus Beef	A	32	4.0	B	33	3.0	C	23	3.0	DB	45.0	1.0	DC	32.0	1.0	EB	57	1.0	EC	40	1.0	FB	50	4.0	FC	35	4.0
Certified Hereford Beef	A	32	4.0	B	33	3.0	C	23	3.0	DB	44.5	3.0	DC	31.5	3.0	EB	56	3.0	EC	39	3.0	FB	50	4.0	FC	35	4.0
Coleman Natural	A	28	17.0	B	30	13.5	C	20	13.5	DB	41.5	12.0	DC	28.5	12.0	EB	51	12.5	EC	34	12.5	FB	46	15.0	FC	31	15.0
Decatur Beef	A	24	20.5	B	25	21.0	C	15	21.0	DB	35.5	21.0	DC	22.5	21.0	EB	42	21.0	EC	25	21.0	FB	40	19.0	FC	25	19.0
Farmland Supreme	A	32	4.0	B	33	3.0	C	23	3.0	DB	44.5	3.0	DC	31.5	3.0	EB	56	3.0	EC	39	3.0	FB	50	4.0	FC	35	4.0
Gelbvieh Alliance	A	21	27.0	B	23	27.0	C	13	27.0	DB	33.5	25.5	DC	20.5	25.5	EB	40	24.5	EC	23	24.5	FB	36	27.0	FC	21	27.0
Hi-Pro Producer's Edge	A	22	25.0	B	24	25.0	C	14	25.0	DB	34.0	24.0	DC	21.0	24.0	EB	39	26.5	EC	22	26.5	FB	39	22.0	FC	24	22.0
Laura's Lean Beef	A	33	1.5	B	33	3.0	C	23	3.0	DB	44.0	5.5	DC	31.0	5.5	EB	54	6.0	EC	37	6.0	FB	51	1.5	FC	36	1.5
Lean Limousin	A	30	10.5	B	31	8.5	C	21	8.5	DB	42.5	7.5	DC	29.5	7.5	EB	51	12.5	EC	34	12.5	FB	49	6.5	FC	34	6.5
Maverick Ranch Beef	A	29	14.5	B	30	13.5	C	20	13.5	DB	41.5	12.0	DC	28.5	12.0	EB	51	12.5	EC	34	12.5	FB	46	15.0	FC	31	15.0
MFA Alliance Advantage	A	23	23.0	B	25	21.0	C	15	21.0	DB	35.5	21.0	DC	22.5	21.0	EB	42	21.0	EC	25	21.0	FB	39	22.0	FC	24	22.0

Alliance	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank	Method	Total Points	Rank			
Michigan Beef Alliance	A	33	1.5	B	33	3.0	C	23	3.0	DB	44.5	3.0	DC	31.5	3.0	EB	55	5.0	EC	38	5.0	FB	51	1.5	FC	36	1.5
Monfort Integrated Genetics	A	29	14.5	B	29	17.0	C	19	17.0	DB	40.0	17.0	DC	27.0	17.0	EB	48	17.0	EC	31	17.0	FB	46	15.0	FC	31	15.0
Moorman's Value Trac	A	24	20.5	B	25	21.0	C	15	21.0	DB	36.0	19.0	DC	23.0	19.0	EB	43	19.0	EC	26	19.0	FB	39	22.0	FC	24	22.0
Nebraska Corn Fed Beef	A	29	14.5	B	30	13.5	C	20	13.5	DB	41.5	12.0	DC	28.5	12.0	EB	52	9.0	EC	35	9.0	FB	46	15.0	FC	31	15.0
Oregon Country Beef	A	31	7.0	B	32	6.0	C	22	6.0	DB	44.0	5.5	DC	31.0	5.5	EB	56	3.0	EC	39	3.0	FB	48	9.0	FC	33	9.0
Precision Beef Alliance	A	31	7.0	B	31	8.5	C	21	8.5	DB	41.5	12.0	DC	28.5	12.0	EB	52	9.0	EC	35	9.0	FB	47	11.5	FC	32	11.5
Premium Gold Angus Beef	A	30	10.5	B	31	8.5	C	21	8.5	DB	42.5	7.5	DC	29.5	7.5	EB	51	12.5	EC	34	12.5	FB	49	6.5	FC	34	6.5
Red Angus Feeder Calf Certification	A	22	25.0	B	24	25.0	C	14	25.0	DB	30.5	27.0	DC	17.5	27.0	EB	39	26.5	EC	22	26.5	FB	37	26.0	FC	22	26.0
U.S. Premium Beef	A	29	14.5	B	30	13.5	C	20	13.5	DB	41.5	12.0	DC	28.5	12.0	EB	53	7.0	EC	36	7.0	FB	44	18.0	FC	29	18.0
Western Beef Alliance	A	24	20.5	B	25	21.0	C	15	21.0	DB	35.5	21.0	DC	22.5	21.0	EB	42	21.0	EC	25	21.0	FB	39	22.0	FC	24	22.0

FIGURE 1: LIVE CATTLE PRODUCTION-MARKETING SYSTEM

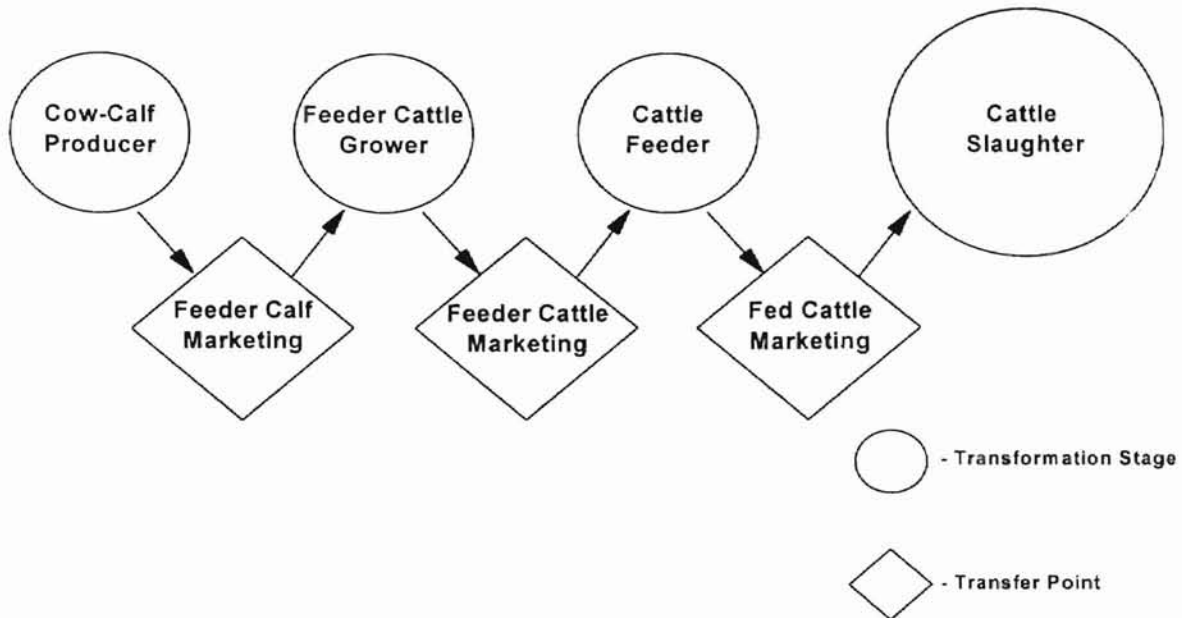
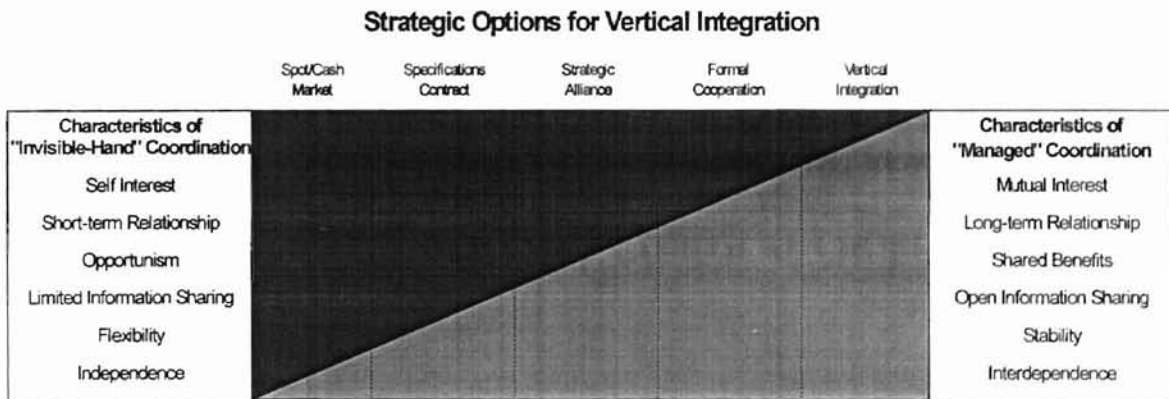


FIGURE 2: PETERSON AND WYSOCKI VERTICAL COORDINATION CONTINUUM



NOTE: The diagonal line represents the mix of invisible-hand and managed coordination characteristics found in each of the five alternative strategies for vertical coordination. The area above the diagonal indicates the relative level of invisible-hand characteristics and the area below the diagonal indicates the relative level of managed characteristics.

VITA ²

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