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Value Chains in the Agri-Food Sector

WHAT ARE THEY?

HOW DO THEY WORK?

ARE THEY FOR ME?

Jill E. Hobbs, Ann Cooney, & Murray Fulton

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Introduction

The value chain concept is relatively new to the Canadian agriculture and food sector, but it is generating a lot of interest. There are no quick and easy recipes for building a successful value chain, however. What works for one business in one set of circumstances may not work for another. This booklet, then, does not pretend to be a template for creating a value chain. Rather, we wish to give the reader a picture of what value chains are, how they operate, and why they might be successful in some circumstances and unsuccessful in others. To help construct this picture we draw on real examples from the agri-food sector. Ultimately, the information in this booklet is designed to help agri-food businesses determine whether they are interested in, and ready for, the value-chain concept.

BOX 1

Against All Odds: The Danish Pork Industry Success Story

If we were to analyze the pork industry in Denmark using conventional indicators of cost competitiveness, we would find that, relative to Canada:

- land in Denmark is scarce and high priced;
- Danish feed costs are inflated by the effect of the European Union's Common Agricultural Policy;
- processing lines in packing plants are far slower, so that fixed costs must be spread over a lower throughput;
- labour costs are almost three times as high; and finally,
- Denmark is much further from the lucrative Japanese market, resulting in higher transportation costs.

This basic cost comparison suggests that the Danish industry should be highly *un*competitive in world markets. The export statistics tell a different story.

In fact, Denmark is the world's largest exporter of pork, accounting for nearly 30% of global trade. In 1999, this small country on the northern edge of Europe accounted for 29% of Japanese pork imports. Denmark competes head-on with Canada for a 17% share of US imports. Moreover, the pork industry in Denmark is not heavily supported by

EU subsidies; it receives relatively small, intermittent export subsidies—not nearly enough to support a global exporting strategy. The answer lies, rather, in the *organization of the industry* and the vertical co-ordination of activities from breeding to production, slaughter, processing, and distribution.

Ninety-seven percent of Danish production is channelled through three farmer-owned co-operatives that slaughter and process their members' hogs. All the co-ops belong to *Danske Slagterier* (DS), an umbrella organization that undertakes marketing activities on behalf of the industry, and conducts research on breeding, production, processing, and markets. *Communication* and *co-operation* are the watchwords of the Danish industry. *Danske Slagterier* gathers intelligence on consumer preferences in key markets and uses this information at all stages of the chain, improving quality and responding to consumer needs. It was market research, for example, that determined that Japanese consumers prefer pork that is deep red/pink in colour. This led to research both in controlling meat colour through genetics and in methods of objectively grading carcasses on the basis of colour. Ultimately, these initiatives will enable the industry to produce "Japanese-quality" hogs specifically for that market.

Through close working relationships with—or ownership of—processing and distribution firms, processors are able to tailor their products to the needs of particular markets and market segments. The emphasis is on meeting the needs of specific markets. Sophisticated carcass-grading techniques provide feedback to farmers on the quality and suitability of individual carcasses. Traceability, food safety, and quality assurance are all top priorities, and are all facilitated by close vertical co-ordination along the chain.

The Danish case demonstrates that the value-chain concept can be applied on an industry-wide scale. This is not how we normally think about value chains—it is, in fact, quite different from some of the other value chains that are discussed in this booklet—but it demonstrates some of the same principles: *communication*, *co-ordination*, and *co-operation* are central to the international competitiveness of an industry, even to the extent of overcoming natural cost disadvantages and making it a global leader.

For a more detailed explanation the Danish experience, see Hobbs et al (1998), and Hobbs (2000).

What Are Value Chains?

Some people use the terms "supply chain" and "value chain" interchangeably. Others use each term to describe different processes. For the purposes of this booklet, the term *supply chain* refers to the entire vertical chain of activities: from production on the farm, through processing, distribution, and retailing to the consumer—in other words, the entire spectrum, from gate to plate, regardless of how it is organized or how it functions. This is the supply chain. But we are interested in a particular form of supply chain: the value chain. For the purposes of this booklet, then, the term *value chain* refers to *a vertical alliance or strategic network between a number of independent business organizations within a supply chain.*[1]

A value chain is created when organizations have a shared vision and common goals. It is formed to meet specific market objectives through satisfying the needs of consumers. It allows for mutual decision making as well as the sharing of risks and benefits. It also allows for cooperative intelligence: costing, marketing, and organizational information is shared to enhance the value chain's profits and competitiveness. The value chain often encompasses the entire spectrum of the supply chain, from consumer to producer. Although consumers may not technically be members of the value chain, the retailers or businesses closest to the consumer usually are, since the information they supply regarding the consumer is essential to the success of the chain. The value chain therefore provides a framework for conducting business transactions: it is responsive to the needs of the consumer; it involves trust and open communication between its participants; and it results in mutually beneficial outcomes for all participating parties.

To understand what a value chain is, it is helpful to know what it is *not*.

A value chain is not vertical integration. Vertical integration occurs when a single firm owns several stages in the supply chain. A company such as ESSO, for example, which owns both oil refineries and retail outlets, is vertically integrated. A grain-handling company that owns a flour mill and a bakery is also vertically integrated. In a vertically inte-

1. For a discussion of strategic alliances and networks in agriculture, see Holmlund and Fulton, 1999.

grated firm, products move between the stages of production, processing, and distribution as a result of managerial decisions within a single company. In a value chain, products move between *independent* firms working together in a vertical alliance. Of course, a vertically integrated firm could be part of a value chain with other independent firms in the supply chain, but it would participate as any other value chain member would.

A value chain is not a co-operative or a New Generation Co-operative. A co-operative is a horizontal alliance, usually across one level of the supply chain. In agriculture, this often involves a group of producers collaborating to achieve a mutually beneficial goal, such as the processing or the storage and handling of grain. A co-operative might be responsible for more than one function of the supply chain—input supply and/or marketing, for example—but that does not make it a value chain. As with a vertically integrated firm, there is no reason why a co-operative could not be part of a more extensive vertical value-chain network, but the two concepts are different.

A value chain is not a series of traditional spot-market transactions. A spot-market transaction involves multiple buyers and sellers and occurs within a certain time period. Products move through production, processing, and distribution in response to market signals; there is no long-term relationship or commitment among individual buyers and sellers. The price is the main determinant of the sale; there is little or no negotiation of quality, which is generally specified by broadly defined grades. There is little, if any, feedback along the supply chain from consumers to producers. An auction provides a good example of spot market transactions. The absence of long-term buyer-supplier relationships, as well as the lack of feedback and communication along the supply chain, mean that spot markets are substantially different from value-chain relationships.

A value chain is also different from the adversarial business relationships found in many parts of the agri-food sector. In traditional relationships, the goal is to maximize gains to the individual enterprise, often through purchasing at the lowest possible price and selling at the highest possible price. There is little trust and even less sharing of information among the principals. The members of a value chain, on the other hand, recognize that participants must create a *win-win* situation

whereby they all benefit financially and are all part of the information-sharing and decision-making process. Value chains are built on co-operation rather than adversarial business relationships. Table 1 illustrates some of the differences between traditional and value-chain business relationships.

TABLE 1

Comparison of Traditional and Value Chain Business Relationships

	Traditional	**Value Chain**
Information sharing	Little or none	Extensive
Primary focus	Cost/price	Value/quality
Orientation	Commodity	Differentiated Product
Power relationship	Supply push	Demand pull
Organizational structure	Independent	Interdependent
Philosophy	Self optimization	Chain optimization

Source: Bouma (2000)

To sum up, we can state a number of facts about what a value chain is:

- A value chain is a strategic network of independent organizations/businesses—producers, processor(s), distributor, retailer—who recognize their mutual need for one another, will work together to identify strategic objectives, are willing to share the associated risks and benefits, and will invest time, energy, and resources to make the relationship work (Amanor-Boadu, 1999, p. 5).
- A value chain is demand driven rather than supply driven; its primary purpose is to respond more effectively to the needs of the marketplace through co-operation, communication, and co-ordination.
- A value chain requires the commitment of all participants in controlling the factors affecting product quality and consistency, including the co-ordination of production, processing, distribution, or advertising and display functions.
- A value chain is responsive to changing consumer needs. The timely dissemination of information from the consumer to other links in the

chain enables changes to be made quickly to protect or increase market share. If buying patterns change, for example, and the product is more in demand on Tuesday than on the traditional delivery date of Thursday, a change in the delivery date will result in higher sales.

- A value chain offers security in doing business with other members of the chain. Chain members work together in developing common objectives and goals. Together, they devise a common strategy and a system to monitor compliance. The resulting trust and co-operation creates an environment in which products of consistently high quality reach the consumer in a timely manner.
- A value chain involves high levels of trust between parties to the alliance; there is no room for an adversarial attitude toward suppliers or buyers. Competition for prices and more advantageous delivery conditions is not among producers *within* the alliance. Rather, it is with other producers, processors, or distributors *outside* the value chain.
- A value chain is not a panacea for business success. It does not absolve producers from the necessity of being aware of, or responsive to, the needs of consumers. As in all things that facilitate success in business, value chains require hard work, dedication, and an understanding of the needs of those with whom you have formed your alliance or network. In essence, it is a framework for improved communication and co-ordination in business transactions. A value chain alliance with other firms assists individual businesses to reach goals which they could not reach on their own. Ultimately, a successful value chain should provide a competitive advantage in the marketplace and an opportunity to maintain that advantage through responsiveness to the needs of the market.

Who Is Involved?

There are no hard and fast rules about who should be involved in a value chain. One should, however, keep in mind the objectives of the relationship. A successful value chain will be responsive to the needs of the consumer. This might mean focusing on product quality, timeliness

of supply, and feedback mechanisms. Depending on the characteristics of the product and the nature of the target market, there will be a number of *critical control points* as the product moves along the supply chain from producer to consumer. There are key functions and roles that affect product quality, timeliness of delivery, information flow, and so on. All players who have an influence on a "control point" which is critical to achieving the objectives of the value chain, therefore, must be directly involved. In most cases, for example, it is critical that the chain be responsive to market needs. This means that timely and accurate information about consumer preferences and feedback on consumer reaction to the product must flow back along the supply chain. This is a critical control point. The firm in closest contact with the consumer—generally the retailer or the restaurant—has the most influence over this critical control point. Most successful value chains will include firms that are in direct contact with consumers.

The concept is analogous to the Hazard Analysis, Critical Control Points (HACCP) management system for reducing food safety hazards. The basic idea behind HACCP is that potential chemical, biological, and physical hazards in a production process be identified, and that critical control points be determined whereby the risks from these hazards can be minimized. Using this analogy, firms and individuals initiating a value chain should first identify mutually beneficial objectives, and then determine the critical control points for achieving them.

A value chain need not include everyone in the supply chain. Indeed, increased communication among key members may render certain middlemen unnecessary. In the same manner, the role of some members organizations—a courier company, for example, delivering correspondence to other chain members, or a veterinarian providing services to a producer—may be relatively small and unrelated to a critical control point. Such services, although important to the value chain, do not directly affect product distribution or quality. It is generally sufficient to contract-in such services as they are needed. On the other hand, if a courier company is the chief method of delivery for a perishable food product, its ability to deliver in a timely manner without product deterioration is essential to customer satisfaction. In this case, the courier company would be an integral part of the value chain.

Determining where the value chain ends—i.e., which parties should

be involved—involves a trade-off. As more and more parties with diverse objectives and management styles become involved, the internal costs of managing the value chain increase, and it becomes increasingly difficult to reach a consensus on mutually beneficial objectives. These are the *internal transaction costs* of value chain relationships. Thus, the benefits additional partners bring in terms of managing critical control points must be balanced against the potential for increased internal co-ordination, or transaction, costs. The flip side, of course, is to weigh the costs of monitoring the activities of players remaining outside the value chain yet whose actions affect the success of the chain. These are the *external transaction costs* that arise as the value chain interacts with its environment. While a specific dollar value cannot be assigned to these costs, the concept helps us think about the pros and cons of different value chain structures: who should be included in the value chain and who should remain merely a contractual link. At some point, the costs of including additional members will outweigh the benefits. This should be considered carefully as value chain relationships are forged.

How Are Value Chains Structured?

As we have seen, a value chain is a network of strategic alliances between independent companies that together manage the flow of goods and services along the entire value-added chain. "Strategic" implies that the partnership is entered into deliberately by groups of people who jointly undertake activities they could not undertake themselves (Holmlund and Fulton, 1999). The result is "competitive intelligence," whereby information that could not be accessed independently is gathered and shared. There are a number of key organizational considerations in building a successful value chain. These include:

- establishing common objectives;
- managing information flows;
- evaluating performance;
- the existence of tangible benefits to all involved; and
- building trust and establishing co-operative working relationships.

If we take a lesson from the collective experience of companies involved in joint ventures, one of the principal causes of failure in such ventures is that the objectives of the partners are incompatible. The same is true of a value chain. Most other organizational issues stem from this one point. It is crucial that the parties establish and share a set of *mutually agreed-to objectives*. If individual objectives differ, information will not flow freely between the partners. It becomes more difficult to evaluate the performance of the value chain as different parties use different benchmarks of performance. Further, the incentives to remain with the value chain will be weakened, and it will be difficult to build trust and a spirit of co-operative interdependence.

The objectives of the value chain will depend on the product, market circumstances, and the participants, among other factors. The aim might be to bring a new product to market, or to introduce an existing product to a new market; it might be to provide assurances of food safety, traceability and/or quality to end consumers; it might be to maintain or expand market share in the face of increased competition from imports or from domestic competitors; it might be to respond to new government regulations which affect product design, processing, or traceability; or to strengthen and deepen existing relationships with a view to increasing market share.

Often value chains are born in periods of crisis when industries feel threatened. Faced with poor returns for traditional crops and livestock, for example, western Canadian producers are interested in diversification into specialized crops and livestock, as well as becoming involved in downstream value-added activities. In many cases, producer groups hope that adopting a value chain approach will help them improve the economic position of their members' farm businesses. In another example, many retailers in the UK changed the way they sourced their beef products, partly as a result of the Bovine Spongiform Encephalopathy (BSE) crisis in Britain, but also because of new food safety legislation which increased their legal responsibility for the food they sold. Retailers required that their suppliers (processors) sourced cattle only from farms that belonged to recognized on-farm quality assurance schemes. They also increased their monitoring of production practices in beef-packing and processing plants. In some cases, they formed three-way alliances with specific beef producers and processors in order to

provide safety and quality assurances to a worried consuming public (Fearne, 1998).

To manage the flow of goods and services in a value chain, there has to be an effective *management of information* exchange between all members, including managing feedback from customers and/or end consumers. Open communication and information sharing are essential to a successful and market-responsive value chain. Box 2 explores the supply relationships between the UK food retailer J. Sainsbury and its fresh produce suppliers. Key to the success of J. Sainsbury's approach has been communication and information sharing between chain partners.

BOX 2

The J. Sainsbury "Partnership in Produce" Approach

In the 1990s, the UK supermarket retailer J. Sainsbury began forming close value chain relationships with key suppliers of fresh produce, including beef, veal, lamb, pork, potatoes, onions, and fresh fruit. The company took a proactive role in linking primary food producers with processors and manufacturers. The rationale behind the establishment of these relationships was to "implement processes which facilitate true working together to achieve ultimate consumer satisfaction, maximize business efficiency for mutual benefit" (Hughes and Merton, 1996, p. 5). The supermarket was the driving force behind the establishment of these value-chain partnerships, recognizing the opportunity to improve product quality consistency and reduce food safety risks. To this end, the retailer sought suppliers willing to take a long-term view on successful strategies for continuous growth and development. *It was essential that both suppliers and the retailer openly discussed their respective objectives and were willing to share information on product and retailing developments.*"The partnerships provided a forum for all those involved in production, distribution and sales to meet, exchange information and plan mutually agreeable targets and programs over a longer period than had been the case previously" (Hughes & Merton, 1996, p. 5).

Key organizational points for the partnerships involving apples and pears, for example, included:

- farmer members were provided with the specifications for the se-

lection of produce;

- fruit was produced according to HACCP-based "good practices";
- information exchange and liaison ensured that all parties remained at the forefront of technical knowledge with respect to product development and food safety; and
- routine meetings were held among Sainsbury's buyers and technologists, marketing co-ordinators for the producers, and the producers themselves to discuss future objectives and programming.

Benefits included:

- access to the shelves of one of the nation's largest fresh produce retailers;
- a year-round market for produce of acceptable quality;
- mutual security in financially secure trading relationships; and
- benefits accruing from information exchange, including:
- more efficient co-ordination of supplies;
- retailer feedback on variety acceptability;
- continuous dialogue between partners regarding product development; and
- planned growth of the business.

Co-operation rather than confrontation in the supply chain was fundamental, particularly for perishable produce where delays in shipment could be critical.

Source: Hughes and Merton (1996)

Value chain partners should agree on relevant criteria for *appraising the performance* of the chain. Are the business relationships achieving what they set out to do? Clearly, this will depend on the common objectives that were established at the outset. Participants should have realistic expectations about the time required to observe tangible results from the alliance. Open communication and information sharing is critical so that value chain partners are receiving continuous feedback from one another and potential problems are identified and dealt with at an early stage.

A value chain will not work if there are benefits to only one group of participants; there need to be *tangible benefits* to all involved, thus creating an incentive for continued participation. Benefits might include guaranteed market access, guaranteed supplies of a specific quantity and quality of goods at a specific time, or the opportunity for new product development. The enhanced ability to respond to changes in the marketplace is often an incentive for participation, as is the recognition that one cannot "go it alone," that other parties in the supply chain have valuable skills and expertise that can best be utilized in a value-chain partnership. The benefits need not always be equally distributed among partners, however (Hughes and Merton, 1996). As in any successful business relationship, the parties shouldering a greater portion of the risk or undertaking a greater share of the investment are usually rewarded with a greater share of the return.

Trust is one of biggest issues in the formation of a value chain. Potential participants must trust that their partners' motives are not solely self-serving, and that there are benefits to working together. Ideally, the value chain will create a win-win relationship whereby all participants benefit through the establishment, maintenance, or expansion of secure and sustainable markets. The issue of trust highlights the importance of continuous dialogue among all parties to ensure that the objectives of the alliance are being met, and that no one member has tried to create a situation in which they benefit at the expense of the other partners. Third-party management during the formative stages of the value chain will help build trust by ensuring that pertinent information is exchanged.[2] In addition, assurances may be required that business relationships will be honoured despite subsequent market fluctuations. If commodity prices fall, for example, producers must be assured that a processor will not switch to a cheaper source of supply in the short run, but that he or she will honour a supply relationship built on service and quality. By the same token, if commodity prices rise and there appears to be a short-run advantage to producers in shipping their produce elsewhere, a processor needs to be assured that producers will honour their commitments.

Clearly, if there has been a long-term shift in the economic fundamentals

2. The role of third-party management is discussed further in the section "Where Do I Start?" on page 24.

affecting a market, altering relative prices, costs, or profitability, the value chain partners may need to re-evaluate their relationship to ensure that it continues to meet their common objectives. The chain needs to be flexible enough to deal with changes in underlying economic or market conditions and remain sustainable and economically viable in the long run. Again, communication and information sharing are critical, reducing both the opportunity for, and suspicions of, opportunistic behaviour on the part of value chain partners faced with fluctuating market conditions. Suppose, for example, that a value chain has been created among growers, processors, and a retailer for the supply of exotic fresh vegetables to meet a growing niche market. After the value chain has been working successfully for some time and is meeting the needs of all the partners, the growers experience an unanticipated increase in the costs of production. Perhaps there has been an increase in the price of energy for heating greenhouses, and the expectations are that this is a long-term increase in production costs. In an open and flexible value-chain relationship, growers will share information regarding the increase. Similarly, the retailer will share information regarding the likely impact on consumer demand of increasing retail prices to cover the increase in production costs. Together, the partners will discuss how they might respond as *partners* to this external threat—whether there are compensating efficiencies to be gained elsewhere in the supply chain, whether the margins received by some parties need to change, whether there needs to be a change in product mix or production methods, and so on.

What should be clear from this discussion is that a successful value chain has mechanisms for both *co-operation* and recognition of the *mutual interdependence* of the partners. It differs from a simple contractual relationship in which the buyer offers a marketing or production contract to a seller on a take-it-or-leave-it basis because all parties have a voice in establishing objectives and procedures. Also important is the recognition that each partner has a set of "core competencies," capabilities, or skills that they bring to the alliance. Acting alone, a firm has access only to its own core competencies. By partnering with others in a value chain, producers, processors, distributors, and retailers can benefit directly from a wider set of competencies across other parts of the supply chain.

Why Might Value Chains Be Beneficial to My Organization?

In an increasingly competitive global agri-food environment, businesses that are adept at meeting the needs of consumers will survive and grow. Increasingly, the market for food is characterized by differentiated products with a host of characteristics to suit different consumer segments. Not only are the *tangible* attributes of food products—taste, texture, fat content, nutritional content, price—important to consumers, but *intangible* qualities—food safety, animal welfare, environmental concerns—are rapidly gaining in importance. There is a need for supply chain partnerships that allow the agri-food industry to respond competitively to these diverse consumer needs.

The ability consistently to provide high-quality products depends on the commitment of all players in the supply chain. It requires co-operation—from the producer to the retailer. This is one of the key benefits of participating in a value chain. A value chain provides a *framework* for facilitating communication and problem solving, and for building supply chain efficiencies and a commitment to high-quality standards. If traditional commodity-grading systems do not meet specific customer demands, for example, a value-chain partnership can offer a more flexible approach, generating products that are tailored to specific market needs.

The ability of firms to exchange information in a timely manner allows for the development of *strategic plans* to respond to changing consumer demands. If there is a regulatory requirement or market demand for increased traceability of food products—how, where, and by whom food is produced—a strategic plan can be developed to respond to this need (Hughes and Merton, 1996). Co-ordination and co-operation among value-chain partners allows for easier traceability than would be possible in a commodity market where there are multiple interactions between buyers and sellers. Early diagnosis and response may make the difference in terms of maintaining or increasing market share.

Value chain members benefit through the *security of the relationships* they have established. For example, a producer group's commitment to the supply of high-quality agricultural produce is of benefit to other members of the chain. Producer participation reduces uncertainty

over product quality and quantity for downstream processing and retailing. Procurement costs are reduced because of the development of long-term, stable trading relationships. From the producer's perspective, stable pricing agreements and secure market access mean less vulnerability to commodity cycles. The retailer, too, is able to guarantee quality attributes or availability to the consumer, thereby building consumer loyalty and enhancing market share.

Logistical cost savings will result from less wastage if products are delivered at optimal times, industry bottlenecks are identified and removed, and the product meets customers' expectations. It may be possible to cut out unnecessary links—i.e., have fewer middlemen—if certain functions can be performed more efficiently by other partners in the value chain. There may be opportunities to pool resources and expertise regarding market research and product development.

The tighter *quality specifications* and quality control expected from a value chain enables the development and promotion of branded food products, as well as the protection of brand-name capital investments through quality assurance. This facilitates price discovery by allowing prices to correspond more closely with product qualities rather than using "average" prices to reflect an "average" quality. Producers receive more accurate price signals as to the qualities valued by the market.

Specific benefits, of course, will depend on the objectives of the value chain. In general, we can expect businesses to benefit from the formation of vertical strategic alliances with others in the supply chain who have similar goals and objectives. As we have seen, logistical, information, and procurement-cost efficiencies should result, together with an increased ability to respond to changing consumer demands—indeed, even to anticipate them and develop new strategies, thereby maintaining or increasing market share. A long-term commitment by all participants increases financial security and allows for product and service innovation, enabling firms to focus on long-term competitiveness instead of short-term costs/gains.

Box 3 provides an example of a value chain involving a British firm, Canadian farmers, and a grain handling firm. The initiator was Warburton's, a major UK bakery firm. The Warburton's Case illustrates that a demand-driven approach is crucial, as are trust among partners and the sharing of benefits.

BOX 3

The Warburton's Case

Warburton's Ltd. is a century-old family firm and Britain's largest independent bakery, producing more than three million loaves of bread a week. Warburton's bread is known to be of high quality, and is often twice the price of a regular loaf. To guarantee its quality, Warburton's has always used Canadian Western Red Spring (CWRS) wheat. In the late 1980s, however, they began to notice a decline in quality, which threatened their ability to charge premium prices for their bread. Their research revealed that particular varieties of CWRS—specifically Teal, Pasqua, and Columbus—worked best in their system, producing bread better suited to their customers' tastes.

To ensure that they would get only these varieties, Warburton's began discussions with the Canadian Wheat Board (CWB) to use "identity-preserved contracts" to source specific varieties of wheat. The contracts that were agreed to are administered by Agricore (formerly Manitoba Pool Elevators) and Paterson Elevator Co. Warburton's specifies the amount of wheat it requires—well over 100,000 tonnes annually—and the elevator companies are responsible for obtaining it from Manitoba farmers through production contracts. Warburton's contracts are awarded annually to farmers who have a reputation for growing consistently good quality CWRS crops.

Under the contract, farmers agree to produce a particular variety. Crops have to be grown from certified seed, and the farmer must employ good farming practices to grow the crop and properly store and protect the harvest. The producer also submits a report on weather conditions, use of inputs, and crop yield, along with a sample of the wheat. If the elevator company is satisfied, it agrees to purchase the entire crop. In reality, detailed tests on every sample are not practical, so trust and reputation are critical; contracts tend to be awarded to long-standing members and customers. In return for meeting these standards, Warburton's contract farmers receive a $20/tonne premium over the regular CWB price for identical grain. This premium is paid in cash, direct from Warburton's, along with the regular CWB payment.

For their part, Warburton's accepts all the contracted wheat that meets the agreed-upon standards. They buy direct from the CWB, and are charged more to cover additional administrative and logistical costs,

particularly in handling. Shipments of Canadian wheat are exported to Warburton's every six to eight weeks, and the elevator companies have to ensure that the wheat is "identity preserved"—i.e., maintains the correct characteristics and remains separate from other varieties—through the entire grain-handling system. Warburton's pays a management fee to the elevator companies for administering contracts and preserving the identity of the wheat through shipment.

Warburton's has set up a research lab and pilot bakery, Warburton's Technical Centre, in Brandon, Manitoba, where they conduct their own quality tests, refine their baking technology, and experiment with new wheat varieties and combinations. The Technical Centre is also in constant contact with the elevators and the producers as they approve shipments based on their analysis of the harvest sample and the farmer's report.

The Warburton's case illustrates the advantages and characteristics of a value chain. Value can be created by co-ordination; by ensuring that the grain is identity preserved, Warburton's is able to maintain a premium market. Since Warburton's, who are closest to the consumer, identified the benefits of co-ordination, it took the initiative to develop the value chain. Thus, this value chain was very much demand driven. Co-ordination, by its nature, requires the involvement and co-operation of other parties—in this case, the farmers, the elevator companies, and the CWB. To ensure this involvement and co-operation, all parties need to benefit. As the case shows, explicit efforts were made to provide benefits to each of the parties through such things as premiums and management fees. Finally, the case illustrates the importance of trust. Although each of the parties sees a benefit from the arrangement, this benefit does not ensure that each of the parties will adhere to the terms and conditions. While monitoring and testing can help to ensure compliance, trust also plays a critical role. Indeed, without trust, a value chain such as Warburton's would be difficult to develop and maintain.

Where Do I Start?

There are no hard and fast rules for forming a value chain, no proven formulae or recipes. What we offer here are some general guidelines drawn from the experiences of past successes and failures. In many cases, the driving force behind the formation of a value chain comes from a single player or group of players at one point in the supply chain; we could call this the "channel captain" or the "chain initiator." It might be the retailer, who recognizes the market need and builds long-term supply relationships. This has occurred in some parts of the British food industry, where supermarket retailers have played the role of channel captain (see Box 2; a further example is given in Box 4, where the channel captain is a hotel/restaurant chain). Alternatively, it may be a producer or group of producers who is instrumental in recognizing the need for co-operation along the supply chain and the mutual benefits of forming value-chain partnerships with a processor and retailer. Or the chain initiator could be a processor or a wholesaler.

It matters little which party is the initiator, provided that all parties recognize the need for the relationship and are willing to work co-operatively to achieve its objectives. Still, one should not underestimate the importance of the initiator, the person or group that "recognizes the potential and has the will and perseverance to formalize an alliance of the business partners" (Bouma, 2000, p. 15). This does not necessarily mean, however, that the initiator should dominate the value chain.

While, as we have said, there are no hard and fast rules for forming a value chain, the following model can be used as a template for thinking through the necessary procedures.

The value chain initiator might begin by organizing an umbrella group of supply-chain representatives. If the group agrees that there are benefits to be expected from working together more closely, they might employ a third party to manage the process of formalizing the new alliance. Third-party facilitation creates an environment in which issues can be discussed frankly by all participants, including the initiator. Objectives, goals, vision and mission statements, organizational structures, and information flows must be negotiated. Trust must be established among the members. A formal agreement stating the terms and conditions of working together could be used to strengthen the new alliance,

while recognizing the need to be flexible enough to respond to changing market conditions.

Once the parties have established a framework for co-operation, they might employ a value-chain manager. This could be one of the value chain partners, a shared responsibility among key employees in each organization, or a third-party manager who is external to the individual firms. Again, this will depend on the nature of the value chain and what it is trying to achieve. The manager(s) keep abreast of developments in all sectors of the value chain and manage the flow of information between the partners.

The duties of those charged with managing the day-to-day interactions of the value chain might include:

- entering into consultations and negotiations with other organizations related to market expansion;
- sourcing products or services from businesses that are not part of the value chain;
- market analysis;
- encouraging the development of new products and services; and
- fostering co-operation in the value chain by:
  - ensuring regular meetings are conducted to exchange information;
  - ensuring a timely flow of information from the customer back along the value chain; and
  - monitoring the value chain to ensure that all members are adhering to the objectives of the chain and meeting their mutual commitments.

In some situations, a value chain may be created for the purpose of developing new markets for new products. Without established markets, the partners may not be able to justify hiring someone or dedicating an existing staff member to manage the value chain. In such cases, the umbrella group could simply monitor its own activities. This will require all parties to attend regular meetings, share information fully, assess market trends and customer responses, and develop mechanisms to monitor the progress and success of the alliance.

In general, the more information sharing, trust, and flexibility built into the organizational policy and culture of the value chain, the greater the chances for long term success. It is important at the outset to find organizations or people who can agree on basic goals and are willing to work toward achieving them. Value-chain members must be willing to commit to the process of establishing and maintaining the partnership; they must make time for meetings to establish strategy and exchange information on an ongoing basis. They must also be willing to commit financial resources to implement change (e.g., through product development or new marketing strategies), to monitor the organization, and to gather and exchange information. A value chain should be looked on as a long-term commitment, with long-term payoffs rather than short-run gains. Value-chain members will need to work at identifying and prioritizing business gaps, producing and implementing action plans to respond to those gaps, and reviewing the results of implementation against objectives (Pearce, 1997). Finally, members of the alliance must have the desire to understand the needs of consumers. What do they want? Why do they want it? How can we respond?

Box 4 discusses a value chain under construction. It is an interesting example because the initiator is involved at both ends of the production-retailing chain, but is not fully integrated across all chain activities. Thus, there remains a need to build value chain partnerships with other firms.

BOX 4

Canadian Rocky Mountain Resorts

Canadian Rocky Mountain Resorts owns several luxury resorts in the Rocky Mountain National Parks of western Canada. Through market research, the company identified a strong market potential for traditional Canadian "heritage" style meals at its restaurants, featuring game meat, including bison, elk, and caribou. The ability to offer a range of these items on its restaurant menus represents a unique differentiation strategy for the resort chain. To do so, however, the company had to obtain a reliable supply of high-quality game meats that would be available year round. The fledgling nature

of the market for many of these species presented many supply uncertainties, both in terms of quantity and quality. The solution has been for Canadian Rocky Mountain Resorts to establish a ranch near Calgary to raise specialized livestock to supply its own restaurants, while simultaneously developing a series of value-chain partnerships with other producers and with processors.

The company intends that eventually its own ranch will supply a major portion of the game meat for its restaurants. This will be supplemented with meat sourced from partner producers with whom the company is developing supply arrangements. It is also investigating relationships with processing companies for the slaughtering and preparation of the meat and development of value-added products. Many of the by-products—hides, antlers, etc.—will be used for furniture and artefacts by the resorts. If it proves commercially successful, this would be an unusual value chain, combining strategic alliances with other value-chain partners with vertical integration of retailing (i.e., restaurant) and livestock production.

The relationships that Canadian Rocky Mountain Resorts is developing have many of the key features necessary for a successful value chain. It is demand-driven, responding to a consumer need that was identified through market research and test marketing. Canadian Rocky Mountain Resorts is the channel captain, and will play a pivotal role in co-ordinating the value chain. As the final point of contact with the final consumer, the restaurant/hotel chain is well placed to gather feedback from the consumer and to relay this information to other partners. The value chain would be mutually beneficial, guaranteeing the resorts with a reliable supply of high quality game meats, while guaranteeing a market outlet for other producers and processors of game meats and products.

Establishing Value Chains in Infant Industries: Elk Velvet Antler

Royal Elk Products in Sangudo, Alberta was founded by Don and Holly Bamber in 1994. In 1999, Don Bamber received the "Entrepreneur of the Year" award in Agriculture/Processing for the Western Region of Canada. The story of how this company has built relationships with an array of suppliers and distributors within a dynamic and rapidly evolving industry provides an interesting illustration of value-chain development.

Velvet antler is shed every year by elk and other members of the deer family. It has long been used in traditional medicine in many Oriental countries. In recent years there has been a growing interest in North America in the reputed medicinal properties of elk velvet antler. The combination of a growing consumer segment interested in health foods and the Asian economic crisis of the late 1990s—which severely curtailed exports to Korea, previously a major buyer of Canadian unprocessed elk velvet antler—led to the rapid growth of processing in Canada for the North American market. Royal Elk Products produces a variety of health products based on elk velvet antler and ginseng.

Royal Elk Products has built a series of business relationships with local elk producers, elk processing plants, and distributors for the supply of both frozen green antler and dried velvet. These relationships are varied and flexible. They can be grouped into four types:

1. In most cases, the company performs a custom processing function for a fee. Producers bring in frozen cut antlers which are then freeze-dried, the velvet covering removed, the antler ground into fine powder, encapsulated, bottled, and returned to the producer, who then sells the product directly to consumers.

2. In other cases, producers supply green antler to Royal Elk Products and, provided it meets specified quality standards, the farmer is paid for the antler, which the company then processes and sells under its own brand name. Some direct sales to the public are made through the company's web site, but the largest proportion of sales is by word-of-mouth.

3. Some of the velvet antler purchased from producers and processed is sold to small independent distributors who purchase the product for re-sale.
4. The company also provides processing and encapsulating services to other Canadian processing companies.

In total, the company bottles over eighty different labels for various industrial customers and independent distributors.

An important quality issue is the absence of drug residue in elk velvet antler products. This requires that producers avoid some harvesting methods that involve certain pharmaceuticals. Royal Elk Products will not accept any antler containing drug residue; however, it does not test for the presence of this residue due to the cost of testing procedures. Instead, it has worked to develop long-term supply relationships with reliable producers based on trust and communication. All producers are provided with guidelines as to the correct use of drugs, and producers must sign a waiver that drugs are not present in the antler they sell.

For some value-chain partners, Royal Elk Products operates a "payment-in-kind" system. The producer will bring in antler, a portion of which is processed, encapsulated, bottled, and returned to the supplier, while the remainder is retained by the company as payment for the processing service. In some cases, value-chain partners have bought or obtained capsules from the Royal Elk Products and owe them antler in return. Clearly, this is an unusual value chain, since the supplier of the raw material may also be the customer for the final product.

We can summarize the relationships that Royal Elk Products has with its suppliers and customers using the ideas about value chains discussed in this booklet.

What is a Value Chain?

Royal Elk Products is producing a differentiated product, not a commodity. There is an emphasis on quality and in meeting the needs of the marketplace. Each link in the value chain is dependent on the other links for ensuring the integrity and quality of the product. Trust plays an important role in the partnerships which the company has established with its suppliers/customers.

Who is Involved?

Producers, whose animal husbandry practices and antler removal procedures affect the quality of the antler; Royal Elk Products, the processor, whose integrated processing procedures turn the raw product into a value-added nutriceutical; and distributors, who are often in direct contact with the final consumer: all are part of the value chain. Each party has influence over a *critical control point* in the production and distribution of elk velvet antler. Royal Elk Products is the *channel captain*. The company plays a crucial co-ordinating role in determining new market opportunities, researching production and processing techniques, working on product development with distributors, and monitoring quality to ensure the integrity of the product.

How are value chains structured?

The objectives of Royal Elk Products' supplier/customer relationships have been to respond to a growing niche market for nutriceuticals while ensuring the integrity of the product. Communication between the company and its suppliers and distributors has been essential as the industry grows and matures. Most of the players are necessarily newcomers to the industry, meaning that communication about production practices to enhance product quality and minimize food safety risks has been essential. Royal Elk Products has been proactive in providing advice and guidelines to its suppliers.

While it is hard to delineate a single value-chain relationship between Royal Elk Products and its suppliers and distributors, there are clear mutual benefits to all parties. Again, trust is an important component of these relationships. The company uses a detailed inventory tagging and recording process to track an individual supplier's antler through the production process so that batches of product can be identified with the supplier from whom it originated. This identity preservation system is important in engendering trust among customers who wish to market their own antler products under their own brand name. Royal Elk Products also trusts its suppliers to ensure that the required production practices have been followed and that the antler does not contain drug residues. Working interdependently, the parties are able to achieve more than they could individually. In essence, the whole is greater than the sum of its parts.

Lessons from the Case Study

The relationships between Royal Elk Products and its partners serve to illustrate that there is no single, accepted version of what a value chain should be. Some elements of the relationships with its business partners may not fit exactly into the definition of a value chain. Nevertheless, it represents an interesting case study on the importance of co-ordination, co-operation, and communication in establishing value-adding vertical business alliances, particularly in emerging industries. These relationships neatly capture the value-chain philosophy.

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