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Drivers, Benefits and Critical Success Factors of Developing Closely-Aligned Agri-Food Value Chains

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For the purposes of this report ‘agri-food’ refers to any activity involved in producing a final food item purchased and/or eaten by consumers.

As noted by the Task Force on Competitiveness in the Agrifood Industry (1990), for this report competitiveness is defined as: *the sustained ability to profitably gain or maintain market share.*

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Introduction

Competing through price reduction is not a preferred strategy for any business. Particularly as reducing prices can be one of the easiest strategies for a competitor to replicate (Fearne, 2003). To remain viable in a changing market, the agri-food industry needs to adopt a new business model; one that will enable agri-food businesses to translate market signals into effective business decisions (Davies, 2003). Such a model would enable agri-food businesses to increase their profitability by reducing business costs and/or increasing revenue, regardless of whether they are involved in supplying a value-added differentiated product or a commodity item.

The agri-food industry is being exposed to an unprecedented level of change (Collins & Dunne, 2002) and must innovate in order to successfully adapt to a changing business environment (Sparling, Quadri, Van Duren, 2005). Consumer purchasing habits have changed radically over the last few decades. Situated far from the end market, agriculture in particular has largely focused on surviving through increasing productivity (Boyens, 2001); in part because producers have not been encouraged to produce according to consumer-determined value (Hedley, 2003).

In the agri-food industry, commodity prices have traditionally been used as the basis of pricing inter-company transactions. Yet they are a poor indicator of a product's true value and an ineffective basis from which to develop cooperation between companies (Mussell, Mayer, Martin, Grier & Westgren, 2003; Bradach & Eccles, 1989). Without an alternative business approach to follow, much of the agri-food industry has sought to compete through increasing productivity and reducing prices; even though business managers can be more concerned about offering lower prices than consumers are about receiving them (O'Keeffe, 2003).

Given the expanding set of challenges that face the agri-food industry, a business model is required that steps outside the 'commodity' mindset. The business model that is being adopted on a world wide basis to assist agri-food businesses to adapt to an increasingly complex business environment is termed Value Chain Management [VCM]. While encompassing disciplines such as logistics, which are central to 'seamlessly' (Van der Vorst, Beulens & Van Beek, 1998:377) meeting consumers' quality-related demands, VCM is predominantly based on the traditional disciplines of economics, strategic management and marketing (Dunne, 2001).

In an era of ever-shortening product lifecycles, the ability to continually innovate in relation to end-market demands is imperative for any business to remain competitive. Innovation is itself an outcome of effective leadership and vision (Collins & Dunne, 2002). VCM is a business approach where cost-saving (efficiency) and volume (productivity) are only aspects, rather than the basis, of competitiveness. Rather, it focuses on innovating according to market-derived value.

Surviving in an increasingly complex business environment, characterised by more discerning and rapidly changing consumers, mounting competition, and reduced government intervention, adopting VCM practices is a powerful tool for improving business competitiveness. International evidence clearly shows that effectively managing the entire value chain enables businesses to successfully develop, produce and market a product more successfully than if operating as an individual entity (Womack & Jones, 2005, 2003; Bourlakis & Weightman, 2004; Gooch, 2001a; Nicholas, 2001). Successfully managing a value chain relies upon the existence of certain critical success factors. Involved organizations must also possess a culture suited to building alliances.

What are Value Chains?

Since the industrial revolution, getting a product to market has encompassed achieving a chain of planned inter-linked tasks (Van Dalen, 1997). Over the last quarter century, a management philosophy has developed that offers organisations the opportunity to acquire powerful competitive advantages by looking holistically at the chain of events surrounding the development, delivery and purchase of a final product in the end-market.

Porter's 1980 discussion of competitive strategy highlighted that, to be profitable, organisations must add value to products through the effective coordination of operational and support activities. He presented the value chain as the activities that occur within an individual business to enhance the value of a product as it passes down-stream to the end market. Separate value chains were interconnected by an overall value stream that ended with the consumer.

Hines' 1994 re-evaluation of Porter's model said that to ensure that the necessary practices are in place to produce a product that meets customers' satisfaction, any value-related assessment must begin at the market and work up-stream. He also made a clearer case for believing that the strategic competitiveness of individual businesses relied upon their ability to coordinate their operations within the overall value chain, as was becoming increasingly evident from his research into the level of collaboration that existed between leading automobile manufacturers and their suppliers. Hines' value chain stretched from the consumer back through to the initial raw material providers.

This re-assessment of the value chain, combined with the rapidly changing consumer market, illustrated that the need for organisations to clearly understand what the end market considers value to mean before investing in the design, production and marketing of a product has never been greater. This is a particularly important concept to understand because value and quality is a dynamic perception that every stage of the value chain will likely perceive differently (Garvin, 1984). Yet the consumer is the only person that ultimately invests money into the entire chain in return for a product or service that satisfactorily meets their demands. It is therefore vital for organisations to perceive quality from the consumers' perspective, not their own.

Changes in consumer purchasing behaviour require businesses to focus on continually adapting their operations to ensure they produce products and services that are demanded by the target market. The benefits that can stem from managing businesses according to market rather than continuing with the traditional 'produce then sell' commodities viewpoint is that it enables you to adapt more effectively to changes occurring in the market (McColl-Kennedy & Kiel, 1999). It also enables you to achieve higher levels of competitiveness and profitability by achieving a higher level of market-driven innovation than your competitors (Burgelman, Maidique & Wheelwright, 1996).

For most companies (agri-food or otherwise), taking maximum advantage of market opportunities and, at minimum retaining competitive advantage in an increasing complex business environment, relies upon understanding how the entire value chain can be best managed in relation to the end market (Womack & Jones, 2005). Focusing on individual levels of the chain will not provide sufficient competitive advantage to prosper in an increasingly tumultuous business environment.

Value Chain Management – What does it mean?

Henry Ford is reported to have stated “Coming together is a beginning. Keeping together is progress. Working together is success” (BrainyQuote, 2005). Arguably, Ford is the father of mass production and value chain management. Many value chains operating today continue to follow methods developed by Ford. However the value chains that Ford developed were coordinated along principles most effective at the time (Womack, Jones & Roos, 1999). In later times, Ford sought to control the value chain through vertical integration rather than collaboration with outside suppliers. Not possessing capabilities required to manage operations that occurred at different levels of the chain, many of these enterprises failed.

The business environment that Ford conducted business within was very different to that which exists today; so is the consumer. Ford’s initial success was due to his focusing foremost on efficiently satisfying consumer wants. He read the market (in the earlier stages at least) extremely well. Ford’s greatest success came before he attempted to control the entire value chain through ownership. Until then he sought to manage the value chain through collaboration. Ford showed that managing the chain through collaborating with companies that possess complementary capabilities and knowledge can provide significant opportunities to increase ones competitive advantage. Sharing of knowledge, experience, insights and learning enables the adoption of innovative practices far beyond what most businesses could achieve as individuals (Hines, Lamming, Jones, Cousins & Rich, 2000).

The essence of Value Chain Management (VCM) is that through closely aligning their individual operations, organisations can focus their combined resources on producing a final good that meets the demands of the end market better than the competition (Roberts, Gregory, Cornwell & O’Keeffe, 2002; Gifford, Hall & Ryan, 1998). VCM and vertical integration are two separate issues. VCM enables businesses to acquire, then act upon, information concerning market behaviour more successfully than if operating as individual entities (Collins, Dunne & O’Keeffe, 2002). VCM is a two part process. The first stage is gathering the information that provides businesses with the knowledge (capacity) to act. The second stage involves developing capabilities that enable businesses to turn management decisions into increased profitability.

The concept of aligning organisations’ operations to provide a consistent level of quality, and use this to retain consumer loyalty in the face of increased competition, is not new (for example, Battelle Memorial Institute, 1983). Nowhere is this need more evident than within the highly competitive agri-food industry, where consumers’ food choices are influenced by a wide range of personal preferences and concerns (Peters, 1998).

By beginning at the end market and identifying consumer demands, then aligning operations to meet those demands, VCM initiates a market-driven pulling of goods through the chain. This enables organisations to boost their profit margins through becoming innovative price makers and eliminating unnecessary costs from the chain. It increases their market power. The emphasis of the VCM model is on innovating and adding value, not solely on taking costs out.

The creation of strategic alliances and the establishment of closely-aligned value chains, enables companies to embrace change with vigour and develop capabilities necessary to remain competitive regardless of whether or not they are lowest cost producers (Collins, 2003).

Drivers to Establishing Closely-Aligned Value Chains

Consumer Behavior

No discussion on drivers of change, particularly the need for businesses to collaborate in order to serve a more discerning marketplace, can overlook the influence that consumers have had upon the agri-food industry. Consumers' purchasing decisions are based on a complex set of reasoning. They also hold more power than anyone else in the value chain. Their purchasing decisions determine which businesses, retailers through to primary producers, will be successful and profitable. And which ones will fail (RMIF, 2004).

A significant driver in the formation of closely-aligned value chains has been organisations' need to respond to changing consumer behaviour (Russell & Taylor, 1999). This change is itself being driven by higher levels of education and affluence amongst consumers (Hughes, 1999; Van Dalen 1997). In particular, the change in consumer behaviour is one of seeking greater enjoyment from the foodstuffs they choose to consume (McColl-Kennedy & Kiel, 1999). Consumers are also increasingly aware of food-related health and safety matters (AFFA, 2000; Soucie, 1997; Hughes, 1994).

Transformations in the family unit, altered social-demographic determinants and lifestyle concerns have changed food consumption behaviours (Gooch & Lake 2005a; 2005b), and changes continue. Factors controlling what food is consumed where, by whom, when and how have changed drastically over the last half century. Wives/mothers no longer play the 'gatekeeper' role in controlling the type or manner in which food is consumed. Changes in roles and lifestyles have resulted in less food being prepared or consumed at home. Further factors that influence consumers' food consumption choices include a growing concern for the environment, increasing demand for convenience, changing perceptions of quality, greater desire for long-term health and well-being, and a gratifying personal experience from food consumed (EFFP, 2004).

Changing demands and perceptions surrounding agri-food products are placing demands upon the agri-food industry that most companies are unable to address by operating as individual business units (Bourlakis & Weightman, 2004). A business environment has developed where suppliers who do not proactively seek to understand consumers intimately, then find ways to offer choices that reflect their changing demands, will be penalized severely (Hughes, 1999). With their wallets, consumers are saying that the value of a foodstuff is higher when it offers a differentiated experience, meets a functional need, and provides dependable safety assurances.

Few companies possess the resources and capabilities required to profitably meet consumers' expanding range of demands; or compete against increasingly competent competitors. For many companies, collaborating with the entire value chain to develop, produce, deliver and market products that consistently meet consumers' changing demands is the most effective method of ensuring their long-term competitiveness. Other companies are collaborating because it lessens their exposure to risks posed by operating in an increasingly complex consumer-driven business environment (Hines et al, 2000).

Changing Business Environment

Fragmentation of the consumer market means that the markets of developed nations no longer value 'boat-loads' (Hughes, 2004) of undifferentiated products. Government intervention in market protection and international trading arrangements is lessening. So is ease of accessing financial resources. Improved logistic capabilities are resulting in increased international competition; meaning that businesses have to be globally competitive, whether supplying domestic or international markets. Changes in the retail, food service and food manufacturing sectors have resulted in the need for suppliers to develop capabilities required to meet customers' changing demands concerning volume, price and quality (Fearne, Hughes & Duffy, 2000).

The impact of an increasingly international agri-food industry is drastically reducing the effectiveness of governance structures and approaches that have historically benefited the agri-food industry. The traditional business approach has been one of seeking to operate as individuals, sometimes under the auspices of an agent, to supply ever larger volumes of products through a series of spot markets (Nicholas, 2001). The effectiveness of this approach has come under increasing scrutiny. Particularly due to competitive pressures of capable, low cost producing nations that possess ample ability to remain profitable by producing undifferentiated commodities in the face of reduced consumption due to slowing population growth and rising levels of obesity; as well as changing consumer concept of food and its place in society, and increased affluence allowing consumers to purchase a wider array of food items.

With the productivity of many nations already exceeding domestic consumption, improving productivity (simply to compete head on with low cost commodity producers) is not a viable strategy for Canada to adopt long term. Selling through spot markets to supply an unknown customer with unknown needs inherently produces a series of information chokepoints which prevent companies from understanding the overall business environment sufficiently to adapt to a rapidly changing situation. It also prevents them from identifying value-creating opportunities. This is not a path to riches, particularly for producers unable to produce at low cost and who have to accept poor returns due to inefficient business practices that often occur in the agri-food industry (Crosby, 2002).

A number of reports and commissions have sought to identify how agri-food companies can prosper in a changing global business environment. Particularly producers that are located in nations where competing on cost of production is not a viable proposition. One such initiative, in the UK, was the Curry Commission (2002). It assessed the overall state of the British agri-food industry and suggested methods to address daunting challenges, such as how UK producers can compete successfully against imports from low cost commodity producing nations.

The Curry Commission's report included a finding that, in order to remain viable, agri-food businesses (particularly producers and producer-owned businesses) will need to enhance their business and marketing capabilities. It presented a scenario where the conduct and capabilities of individual businesses will have greater influence upon the structure of the international agriculture and agri-food industry than legislation. It also stated that future prosperity will rely upon professionally managed operations being performed throughout entire value chains. Similar findings were made by the Odyssey Report (George & Fitzgerald, 2002), which analysed how the Canadian agri-food industry could best address the onerous issues that it faces.

In an age of global consolidation amongst much of the agri-food industry, particularly in the retail sector, experience is showing that cooperation rather than confrontation is the most effective trading arrangement (Fearne et al, 2000). In fact, extensive cooperation between themselves, their suppliers and customers, is often what sets leading businesses apart from the wider agri-food industry (RMIF, 2003; Nicholas, 2001; Gooch, 2001a). Consolidation amongst food manufacturers and retailers has resulted in a rationalization of the supply base. The chosen suppliers are those that have the capacity and passion to offer products and services not traditionally associated with commodities.

The opportunity to innovate and develop capabilities required to secure long-term markets, not least by enabling their customers to achieve greater success in the face of daunting consumer demands, has been a major driver in the adoption of VCM business approaches by agri-food suppliers. The underlying factor that has driven consolidation in the agri-food sector, led in part to rapidly changing consumer behaviour, and enables companies to more effectively manage the value chain is the same: technology.

Technology

Technology, including Information and Communication Technology (ICT), has increased risks associated with companies following a 'go-it-alone' strategy and become a driver for increased collaboration between companies.

Consumers' access to technology often leads them to develop perspectives that, while not always accurate, are their reality. Interest groups broadcast powerful messages to millions of consumers through websites that cost little (if anything) to establish. The global village has arrived and there is no difference between communicating with people, whether they live on the other side of the world or next door (Downing, Mohammadi & Sreberny-Mohammadi, 1995). Increased communication has led to a more informed and scrutinizing consumer than has ever previously existed. It has also encouraged them to attain higher levels of education (Shutske, 2005).

Information changes people's perspectives of the world (Downing et al, 1995) and raises their concerns regarding the safety or ethical nature of food (Peters, 1998). ICT has provided opportunities for consumers to overcome information chokepoints that previously limited their access to information pertaining to operations performed along the entire value chain (Bakos, 1991). Price and production transparency, the ability to determine whether a product is truly worth the amount a company seeks to charge and is produced according to a consumer's personal desire, is no longer a theoretical concept. More than ever before, people are better able to develop well informed perspectives of the true value of a particular product or place of purchase through having easy access to ICT (Power, 2004).

Simultaneously, consumers are looking for guidance amongst a myriad of signals on which foods will provide them with the satisfaction they desire. The anomaly of *too much* information has led to consumers wanting guidance on which food provides the tangible and intangible factors that best meet their perceptions of what constitutes value. Hence the rising importance of commercial brands such as *Dole* or *Whole Foods Markets*, generic brands such as *Foodland Ontario*, and private labels such as *President's Choice*. Successful branding is based on the ability to provide consumers with a consistent product; which is another driver of closely-aligned value chains.

Business has also been greatly affected by technological developments. In their analysis of the impact that ICT has had on business, Porter & Millar (1985) stated that ICT has changed the fundamental basis of competition. Competitiveness used to rely on the ability of companies to profitably process one product into another. ICT has resulted in the competitiveness of companies now relying on collection and analysis of information that emanates from that same process, then act upon that and market information to improve processes ahead of competitors.

Rayport & Sviokla (1996; 1995; 1994) took the concept further, stating that companies which are able to analyse and act upon information stemming from the entire chain will have far greater opportunities to innovate and prosper compared to companies that continue to act as individuals operating within a chain. Examples of how technology is changing the basis of competition within the agri-food industry include where, when, how and why food is purchased (i.e. E-Tailing), prepared (i.e. microwaves) and consumed (i.e. Tetra Pak for out-of-home consumption; frozen entrees for convenience). In a changing and technologically-driven environment, companies need the capability to innovate simply to compete over the long term.

Outside of ICT, technology as a whole has radically changed the agri-food industry (Boehlje, 1996). The rise of GMOs and issues surrounding their production, the development of highly intensive production systems and consumer concern towards them and a plethora of other issues (e.g. growth hormones), all stem from the advent of technology. Technology is changing the way that agri-food is produced and the expectations that consumers have towards the industry and food they choose to consume. While developments in production-related technology are leading to increased size amongst a percentage of farms, with 90% of the US market potentially supplied by 10% of the farm population (Boehlje, 1999), the same technology also expands the options that smaller farms have at their disposal to serve specific consumer segments. While presenting opportunities to differentiate, the advent of technology has also increased the risks facing producers that do not identify, then supply, markets most suited to the capabilities they possess.

To assist companies to manage risks more effectively than in the past, initiatives such as English Food and Farming Partnerships (2004) have been established to encourage agri-food businesses, including producers, to develop close collaborative relationships with the rest of the value chain. This enables companies to benefit from the sharing of complementary technical resources, as needed, to enhance their competitive advantage. Such examples include companies that are collaborating to develop the capability to collect information from operations performed along the entire chain; then use the resulting knowledge to improve the chain's overall coordination (Gooch, 2000b). Regardless of whether supplying niche products to a specific consumer type or commodities to a generic market, the objective of all value chain alliances is the same: sustainable competitiveness.

Benefits of Establishing Closely-Aligned Value Chains

Improved Business Relationships

The process of establishing successful value chains is intrinsically linked to the relationships that develop between members of the alliance (Batt, 2002). The business behaviour that often occurs within embryonic agri-food value chains could be described as ‘ritual sniffing’ (Hind, 2005). Businesses only show interest in each other when looking to purchase or sell goods. There is little clarity about the long term strategy involved in producing a final product for consumers or maintaining the chain’s overall competitiveness. The result: suboptimal profitability and competitiveness.

As chain relationships mature, buoyed by early successes gained through a series of exploratory collaborations, relationships improve to the point that information exchanged between the chain members becomes less transactional and more strategic in nature. As greater levels of trust develop amongst the value chain members, the alliance reforms into a series of interdependent tasks and activities, often coordinated by one overall value chain champion (AAC, 2005).

Appendix A provides a schematic diagram of the relationships that exist within a maturing value chain as the alliance strengthens through developing increased levels of collaboration and trust.

Appendix B provides a comparative analysis of factors that differentiate chain-orientated from traditional “what’s in it for me” orientated agri-food companies.

Constructive business relationships glue value chains together (Roberts et al, 2002). They lead to the more extensive exchange of tactical information (Nicholas, 2001; Cornwell 2000), enable companies to identify more value-creating opportunities than if following an adversarial business approach (Collins et al, 2002), and provide the capability for companies to take advantage of a wider array of market opportunities (AAC, 2005; Bourlakis & Weightman, 2004). The result of constructive business relationships is therefore greater levels of cooperation and trust, which in turn leads to opportunities to continually improve operations occurring within the chain and increase the competitiveness of its members, regardless of the size or traditional market power of the individual companies (Fearne et al, 2000; EFPF, 2004; Bradach & Eccles, 1989).

By working as interdependent (*rather than independent*) organisations, members of a value chain alliance can ensure that an end product satisfies the demands of consumers more than the competition (Roberts et al, 2002). Increasingly, agri-food companies are finding that the relationships that develop through the open exchange of information enable them to overcome challenges by developing innovative solutions that could not have been created had they focused on operating as an individual business (Amanor-Boadu, 2005). The result is the ability to achieve a leadership position in their market, capture higher premiums, introduce more flexible innovative and efficient work practices, and achieve higher profits (Womack & Jones, 2005).

Relationships that were initially improved through the more extensive sharing of information are further strengthened once the alliance partners establish a collaborative planning process that communicates a shared vision amongst the alliance members (Van Hook, 1993). Furthermore, the open communication that stems from positive relationships can markedly improve the

business-to-business interface that often creates higher levels of friction than any other area: buyer/seller relationships (Wilson, 1995). This results in even greater levels of trust and commitment existing between alliance partners, which in turn discourages companies from exhibiting opportunistic behaviour, even during the most challenging of times.

Research has shown that interactive collaborative relationships lead to far higher levels of commercially significant innovation than any other factor. When only 5-6 percent of commercially significant innovations stem from science based initiatives (Tether & Swann, 2003; Womack, Jones & Roos, 1999), the message is clear: inter-company (and intra-company) relationships have an enormous impact on the capability of companies to attain long-term competitive advantage. They enable companies to combine complementary resources to identify market opportunities, innovate according to market demands; then translate that innovation into increased competitiveness.

Increased Ability to Innovate

Companies cut costs to survive; they innovate to prosper. Many successful companies have not achieved competitive advantage through straightforward cost containment. They have achieved superior levels of success through innovation and value creation (Burgelman, Maidique & Wheelwright, 1996). The creation of consumer-recognized value is a direct result of the ability to innovate in line with market demand (Collins & Dunne, 2002). Changes in consumers' purchasing habits mean that products' lifecycles have shortened drastically (Hughes, 1999).

Product life cycles are shortening as consumers seek differentiated and innovative foodstuffs. As the greatest profit is made during the early stages of a product's life, first to market can readily translate into greater profits (McColl Kennedy & Keel, 1999). Successfully identifying emerging trends ahead of competitors, through the existence of constructive business relationships and the pooling of complementary resources, offers a greater chance to secure a significant share of the market ahead of competitors. As products mature into a "cash-cow", this same strategy offers pay-offs that fund further innovation (Burgelman et al, 1996).

Changes in the business environment result in businesses processes becoming outdated increasingly fast. By itself, product innovation is therefore insufficient to remain competitive in a changing business environment. Process innovation is an equally important aspect of creating consumer-recognized value; particularly for companies not involved in the sale of differentiated foods. The ability to develop and implement innovative processes, operations and management techniques brings significant competitive advantages (Womack & Jones, 2005), regardless of where they lie in the value chain (Bourlakis & Weightman, 2004). That ability comes as a direct result of effective leadership (Collins & Dunne, 2002; Womack & Jones, 2003; Womack, Jones & Roos, 1999).

Competitive advantages that can be gained through process improvement include upwards of a 50 percent decrease in product development time, 90 percent reduction in product through-put time, 90 percent reduction in defects, 75 percent reduction in inventory, and 50 percent reduction in variable costs (RMIF, 2004; Womack & Jones, 2003). With the agri-food industry often subject to ineffective business practices (RIRDC, 2001; RMIF, 2004), everyone in the value chain can benefit from an improvement in business operations and processes.

The successful companies of tomorrow will be those that can successfully 'read' the market and, with their alliance partners, innovate and grow. Successful innovation requires more than access to physical (*land/infrastructure/technology/etc.*) and capital resources. It requires significant levels of human resources (*knowledge/skills/management/etc.*) too. Most of all, the capabilities required to successfully innovate in an increasingly competitive environment is a willingness to learn, informed awareness of the surrounding environment, a clear vision, the sharing of accurate timely information, and excellent long-term leadership (Collins & Dunne, 2002).

With reduced access to resources required to develop, manufacture and market such products, most commercially significant innovations will emanate from companies that possess complementary resources and operate as an alliance in order to compete more effectively against their competitors. The majority of commercially significant innovations will not come from the science base. Alliances that span the entire value chain place themselves in a position where they can innovate more successfully by communicating with consumers and each other to ensure that innovations are successful and less costly to develop (Burgelman et al, 1996).

Unquestionably, the ability to combine market and production-related information through open and transparent communication along the entire chain provides companies with a capacity to act that extends beyond their individual capabilities (Collins, 2003; EFP 2004). Access to physical resources is no longer the overriding factor in successful innovation. Ensuring the most effective commitment of resources to achieve a long term objective is.

Reduced Transaction Costs

Significant financial benefits can be gained from the development of closely-aligned value chains (Blackburn, 2000). Transaction costs are the costs associated with performing any activity where buying, selling, or transforming a good takes place (O'Keefe, 1999). They are incurred at the buying and selling interfaces of organisations engaging in commercial exchange (inter organisational), within companies (intra organisational), or when consumers purchase a final good through the costs and time taken to identify a product or service that most suits a particular need (Clemons & Row, 1991). All told, while prices are often the main focus of commodity orientated agri-food companies, transaction costs are often the less obvious factors that impact financial performance.

The relationships that exist between companies often directly correlate to the level of transaction costs incurred by those same companies. The more acrimonious and uncooperative the relationship, the higher the transaction costs. If competing on identical products sold at an identical price, transaction costs can reach the point that the company enjoying superior relationships (and collaborates) with its suppliers and buyers can achieve the higher profitability, even though its raw material costs might be higher than its less profitable competitor.

Hobbs (1996) categorized transaction costs into three types. These are information costs, negotiation costs, and monitoring costs. Information costs are incurred in exploring the suitability of suppliers and/or buyers, discovering the likely price level and attributes required/demanded of a particular supplier and/or market, and acquiring information needed to determine the most appropriate source/market for a good. Negotiation costs encompass all

activities surrounding the purchase or sale of a good, including the engaging of specialists and establishing contractual arrangements.

Monitoring can be the most expensive of all transaction costs and have therefore (arguably) been scrutinized the most within the context of VCM research. Monitoring costs encompass all activities associated with ensuring purchased products meet specifications and perform as expected: developing and implementing quality assurance practices; the cost of rejections, recalls, and losses due to poor quality; monitoring safeness of food production; and marketing. They also encompass the cost of monitoring the performance and behaviour of suppliers.

Linked to monitoring cost analysis and reduction is the perspective provided through game theory. Ross (2001) compiled an extensive theoretical analysis of VCM from a game theory perspective. She cited research by RIRDC (2001) that identified 25 percent of losses occurring in agri-food chains come as a direct result of poor coordination between producers and processors. The more effectively you can dissuade suppliers (and buyers) from continuing with ineffective practices or exhibiting opportunistic behaviour, the fewer resources need to be invested in monitoring their behaviour; and the more likely they are to remain committed to the chain's long term vision. Successfully discouraging business partners from falling into the traditional adversarial 'what's in it for me' approach to business helps prevent businesses from being exposed to untold transaction costs that can, in turn, make them uncompetitive (O'Keefe, 1999).

In relation to benefiting financially from maximizing end product quality, a direct correlation exists between transaction costs and quality issues. Poor intra and inter organisational information flow increases the chance of losses occurring from products and services that are of inconsistent quality. Effective information exchange enables firms to better coordinate their operations in relation to the overall chain and improve quality (Porter & Millar, 1985). True success can only be achieved through maximizing quality and consistency, which occurs when the entire value chain closely-aligns its operations (Beers, 2002).

VCM is not simply about pulling out costs. It is also about putting value in through developing close interdependent relationships between organisations by creating increased efficiency and effectiveness throughout the entire chain. It is about creating an operating environment where, through combining their core competencies and resources, organizations are able to minimize the extent to which negative forces impact their operations.

Control Over the Trading Environment

While the organisation is the hub of economic activity, effectively managing the value chain improves the business environment within which that activity takes place (Roberts et al, 2002). Working collaboratively, members of a closely-aligned value chain can simultaneously minimise their transaction costs, increase their profit margins and maximise the value of the final product (Womack & Jones, 2005). They achieve this by creating a business environment that is protected from the dynamics caused by microeconomic factors such as fluctuating prices, lack of market knowledge, poor forecasting, operational ignorance, inability to coordinate logistics to meet market demands, and ineffective management.

Through the improved coordination of supply, quality, long term planning and overall business operations, alliances can attain a level of coordination that protects them from the extreme volatility of commodity markets and other negative implications that result from an increasingly complex and international business environment. This ability to create a trading environment where the collaboration that occurs between the business partners enables them to limit the extent that the macro business environment impacts their operations and long term competitiveness, could be termed possessing an *internal locus of control*. This makes value chain management a powerful business tool for dealing with an increasingly arduous business environment. Similar to Collins et al's (2002) *locus of value*, organisations that enjoy an internal locus of control have greater control over their own destiny.

Traditional spot market transactions lead to an adversarial environment characterized by winners and losers. Numerous opportunities exist for external factors to hamper the effectiveness and efficiency of organizations' operations; and ultimately their long term success. This could be termed an *external locus of control*. An external locus of control allows the adversity of others, plus a host of other factors, to negatively influence organisations' success. In the challenging agri-food industry, allowing external factors to impact the interfaces that exist between businesses can severely reduce their long term competitiveness.

Appendix C provides a simplified explanation of the benefits that result from businesses operating in a value chain that possesses an internal (rather than external) locus of control. In this case, by limiting the extent to which external factors can impact the chain's effectiveness.

Regardless of the industry sector or country in which they operate, an internal locus of control offers organisations the opportunity to create a trading environment that aids the smooth running of their operations. They can better plan for the future and, devoid of unnecessary hindrances, continually improve operations to strengthen their competitive advantages. Trading environments characterized by an internal locus of control only result from organisations interdependently minimising the negative influence that fluctuating price, quality, supply, demand, etc., have on the success of the entire chain.

An internal locus of control allows an alliance to erect a barrier between itself and the wider industry. The erection of such a barrier provides the alliance with the ability to optimize their operations, serve consumers more consistently and profitably than their competitors, and further increase their overall competitive advantage. The ability to achieve this level of performance is enabled by one overriding factor: the presence of accurate, timely and relevant information throughout the value chain.

Improved Information Flow

The existence of accurate, timely and relevant information is vital to the effective management of value chains. Its existence allows businesses to continually improve their competitiveness through improving their interaction with suppliers and buyers, as well as the operations that occur within their own company (Clemons & Row, 1991). In fact, the collection and distribution of accurate and timely information throughout the value chain can assist in overcoming the adversarial barriers that restrict organisations' performance (Van Dalen, 1997; Wilson, 1995).

Poor information flow increases transaction costs (Dunne, 2001) and results in inappropriate resource allocation and unnecessary waste (RMIF, 2004). The possession of relevant, accurate, and timely information can markedly reduce transaction costs anywhere along the chain. It also enables companies to improve their design, production, marketing and delivery capabilities in line with market demand (Womack & Jones, 2003 & 2005; Hines et al, 2000).

The need for effective information flow, capture, and use to improve operations has increased as consumers demand has grown for products possessing a widening array of attributes. Successful marketing and possessing a thorough understanding of what consumers consider 'quality' to mean in relation to a specific product and/or service go hand-in-hand. They cannot be separated (McCull Kennedy & Keel, 1999).

The only way that quality can be maintained, delivered and communicated to consumers consistently in a profitable manner is through the entire value chain operating in unison according to a set of predetermined principles based upon market-orientated criteria (Bourlakis & Weightman, 2004). This requires the effective sharing of information along the entire chain to achieve a consistent level of consumer-determined quality.

Providing a consistent level of quality is the first step in successfully branding a product (Hughes, 1999). A brand helps communicate a product's value to consumers better than any other method. It establishes an empathic link between a product and the consumer; which assists in attaining a superior position in the marketplace.

Simultaneously, with the traceability aspect of brands becoming an increasingly important tool for countering growing consumer health concerns by providing "quality and safety at acceptable cost" (Henson & Loader, 1999:357), and traceability relying upon the extensive exchange of information, the competitiveness that comes from possessing information necessary to coordinate and integrate value chain operations holds special significance when producing branded items.

While the sharing of appropriate information is critical to providing unsurpassed consumer-recognised value through aligning the entire chain's operations to create consistent quality and supply (Dunne, 2001; O'Keefe, 1999), possessing the capacity to act will not lead to long term success unless the correct management procedures are in place. Essential to successfully managing value chain alliances is a series of critical success factors (AAC, 2005; Mussell et al, 2002; Collins & Dunne, 2002; Gooch, 2000a).

Critical success factors

Compatible Partners

The critical success factors of VCM are compatible culture, leadership, structure and strategy (Collins & Dunne, 2002), trust (Zuurbier, 1999), respect, long term planning and effective communication (Gooch, 2001a), the ability to learn (Dunne, 2004), the ability to act upon knowledge formed by company interaction and information sharing (Collins et al, 2003), and the existence of a shared vision (Roberts et al, 2002). When these critical success factors exist within an alliance, opportunities exist for the value chain to innovate and prosper from the creation of superior levels of consumer-recognized value. The more compatible the companies are prior to forming an alliance, the greater the likelihood that the alliance will be successful (AAC, 2005).

Not all the noted critical success factors need exist during the embryonic stages of chain formation in order for the alliance to succeed. For instance, a significant level of trust may not exist between participants of the alliance during its embryonic stages of development. Gooch (2001a) observed that respect, not trust, is one of the fundamental pillars upon which many successful agri-food value chain alliances are founded. Womack, Jones and Roos (1999) identified the same in the Japanese car industry, home to some of the world's most successful value chain alliances.

Respect can exist without trust. Trust will however never exist without respect. As their commitment to the alliance strengthens with each challenge that the partnership overcome, trust develops and strengthens amongst the alliance partners; to the point where it can weather a significant amount of upheaval and duress.

As respect is such an important factor in establishing a successful alliance, the compatibility of potential alliance partners can be assessed by the level of respect that exists between them and the basis of that respect. The more respect is based on knowledge and capabilities that are proven to exist as the chain develops, the greater the likelihood that the alliance will succeed. The experience of working together, combined with the building and solidifying of trust amongst the alliance, results in a greater preparedness to align their operations for mutual benefit.

Of all the critical success factors, organizational culture is arguably the most important in determining companies' suitability to partner. Since the 1970s, recognition of the impact that organizational culture has upon the operations that occur within a company, and between itself and its business partners, has grown markedly (Ivancevich, Olekalns & Matteson, 1997). Culture affects how a business and its employees view the world around them (Dunne, 2004). It influences attitudes towards collaborating as a cohesive unit, the desire to learn from new experiences, the ability to adapt to new situations, the length of time horizons, autonomy vs. autocracy, empowerment vs. disempowerment, and attitudes towards risk; just to name a few.

Unless the company's culture is suited to working within an alliance and looks to proactively take advantage of opportunities from within, rather than continually reacting to external threats in a defensive manner, it is highly unlikely that a business will make a suitable partner with which to form an alliance.

Governance

In addition to culture, the successful long term management of an alliance depends on the existence of a suitable governance system (Mussell et al, 2003). The importance of establishing a suitable governance system is shown by the realization that developing a value chain alliance is distinctly easier than managing and coordinating an alliance over the longer term (AAC, 2005). Particularly once the alliance is operating smoothly and partners become complacent about why the alliance was formed. With many agri-food businesses entrenched in behaviours learnt from operating in an environment characterized by spot markets, commodity prices and adversarial business dealings, encouraging businesses to behave as an alliance is an arduous task, particularly without the existence of a suitable governance system.

Issues that successful alliances have addressed in their governance system include: how can we as an alliance achieve a vision; monitor where we are in relationship to achieving that vision; and then reward the partners accordingly? How do we, as an alliance, communicate amongst ourselves in order to share information through the most effective means and strengthen our relationship? Who coordinates which operations and performance, and with or without consulting the other partners? How do we ensure that the participants receive a financial reward commensurate with the value that they bring to the chain? What incentives do we implement to encourage the alliance to follow a particular strategic avenue and implement decisions with precision? Most importantly, value chain leaders need to identify the financial incentives and governance systems necessary to ensure that the business partners behave in a manner that benefits the entire chain and do not exhibit opportunistic behaviour (Fein, 2005).

The governance systems of leading alliances often describe how the alliance will navigate difficult situations that, if not addressed effectively, could tear the alliance apart. Gooch (2001a) found that many leading value chain alliances had developed a conflict resolution framework during the process of forming the partnership. Established when emotions are calm and the reason for the alliance is fresh in everyone's mind, a conflict resolution framework is a powerful tool for improving the effectiveness of governance systems. They provide added comfort to businesses that may otherwise believe they are receiving poor returns or benefits compared to other alliance partners, discourage less committed chain members from following opportunistic behaviour when spot market prices are particularly high or low, and generally lead to higher levels of trust amongst the partnership as a whole.

Principles of Value Chain Management

Collins and Dunne (2002) package the above critical success factors into what they term the six principles of value chain management. They are: Focus on Customers and Consumers; Create Share, Realize and Protect Value; Get the Product Right – Every Time; Ensure Effective and Efficient Logistics / Distribution; Ensure an Effective Information and Communications Strategy Is In Place; Build and Maintain Effective Relationships. Developed from studying successful value chain alliances from the agri-food and other industries, they span the entire chain and guide participants of both embryonic and mature alliances through the process of identifying the specific factors that are critical to the effective management of a chain alliance. Should any of the six principle areas of VCM be neglected, the alliance will not perform to its full potential. *Appendix D contains an expanded list of the Six Principles of Value Chain Management, along with examples of the activities that each principle encompasses.*

Conclusion

The world is changing. Capabilities that traditionally provided companies with their competitive advantage need not apply to an economy impacted more by knowledge than physical factors. ICT and other technologies pervade the business environment to the point that they are fundamentally changing the basis of competitiveness. Remaining competitive in an increasingly consumer-driven business environment relies on the ability to serve consumers better by understanding them intimately; and subsequently supply products that reflect their changing perception of value.

Through the formation of value chain alliances, businesses of any size can innovate and compete in ways that would not be possible on their own and are difficult for competitors to replicate. They are able to access information on which to make informed business decisions in relation to consumer demands and monitor the precise implementation of those decisions in relation to the overall production and marketing of that product. Whether producers of high-value differentiated products or low-value commodities, the formation of closely-aligned value chains provide companies the opportunity to protect themselves from factors that all too often negatively impact their unaligned competitors. In doing so, they markedly increase their long term competitiveness.

The ability to establish and maintain a value chain alliance relies upon the existence of certain critical success factors. Not least, companies with cultures conducive to operating as an alliance that can learn and strengthen from each new experience. The era of chain versus chain rather than company versus company is dawning. To compete effectively against increasingly capable international competitors, the development of successful value chain alliances is paramount to the long term competitiveness of Canada's agri-food industry. Companies, not industries, supply markets. Companies that fail to form themselves into effective value chain alliances will find themselves competing against increasingly adept and capable competitors.

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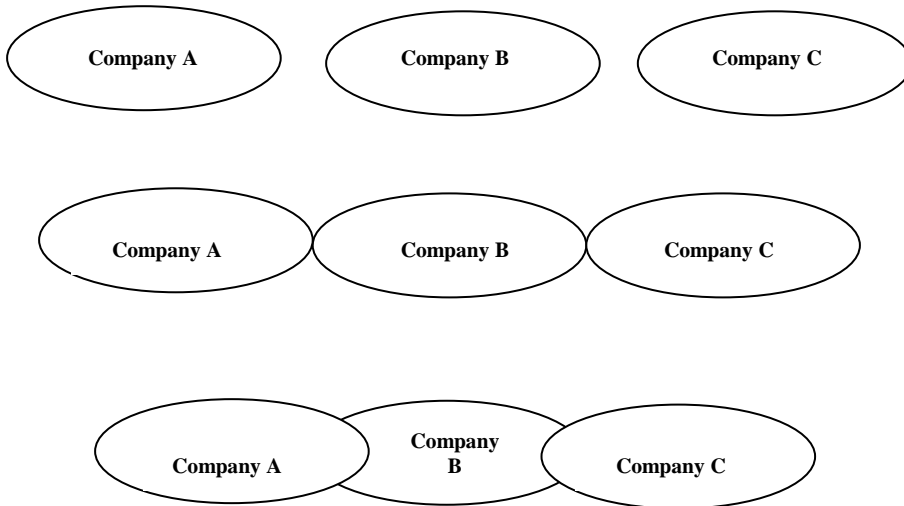
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APPENDIX A
Descriptors of Chain Relationships



<p>Transactional Business Relationships: Companies '<i>ritually sniff</i>' each other out when conducting specific short-term one-off business deals</p>
<p>Preferred Supplier Business Relationships: Dependent on the compatibility of cultures and leadership, companies '<i>experimentally reform</i>' or enter '<i>new norm</i>' business arrangements as they acknowledge the benefits of conducting medium-term business deals with chosen suppliers and buyers</p>
<p>Alliance-Based Business Relationships: Companies begin to engage in long-term business arrangements with companies possessing mutually-beneficial resources and capabilities, and that exhibit compatible cultures, vision and leadership. The result is superior levels of '<i>performance</i>'.</p>

Trust	10	New Norm	Perform	
	<ul style="list-style-type: none"> • Question performance • More assertive than collaborative • Questions assumptions & values • Questions commitment to chain • Questions others' commitment to chain • Review goals & strategies • Review chain & individual performance • Take calculated risks • Alternative leadership styles discussed • Talk more than listen 	<ul style="list-style-type: none"> • Leadership determines situation • Flexible to customer demands • Open objective communication • Effective interdependent boundaries • Compatible, identified roles • Respect & trust partners • Committed to chain • Take agreed risks • Looking to learn & grow • Concern for others 		
		Ritual Sniffing	Experimental Reform	
		<ul style="list-style-type: none"> • Individual objectives • Objectives poorly communicated • Authority central driver • Hidden agenda • Anxiety about change (resistance) • Poor listening • Talks about partnering • Weaknesses covered up • Assumptions & mis-interpretations 	<ul style="list-style-type: none"> • Open to change (goals & objectives) • Looks to restructure around abilities • Prepared to change roles • Looks to improve work methods • Looks to build on strengths • Looks to address weaknesses • Team approach • Willingness to experiment • Culture of listen & learn 	
	0	Collaboration		10

Developed from information provided by Hind (2005)

Appendix B

Factors Characterising Differences Between Traditional Business Arrangements and Value Chain Alliances

	Traditional	Value Chain
Sharing of Information	Little or none	Extensive
Type of Information Exchanged	Transactional (price, order entry, shipping, physical characteristics)	Managerial & Strategic (as required to tailor products & services to customer needs: market signals, costs, margins, quality, product & process innovation)
Primary Focus	Cost/price	Value/quality
Orientation to Market	Commodity	Differentiated
Relationship to Market	Producer “Push”	Consumer “Pull”
Organizational Structure	Independent	Interdependent
Philosophy	Self Optimization	Chain Optimization
Business Relationships	Adversarial	Collaborative
Timeframe	Short Term	Long Term
Company Orientation	Individualistic (boundary of the firm is distinct – focus is on “self benefit”)	Collective (boundary of the firm is blurred – focus is on “mutual benefit”)
Industry Focus	Resisting Change	Adapting to Change
Company Characteristics	Preoccupied with External Threats	Focused on Exploring Opportunities from Within
Processes and Systems	Fractionalized	Integrated
Financial Focus	Price = Cost + Profit	Profit = Price – cost
Risk Management Options	Few: apply only to transactions, are short term, & inconsistent in their effectiveness	Many: apply to operations and strategy, are medium to long term, and consistent in their effectiveness

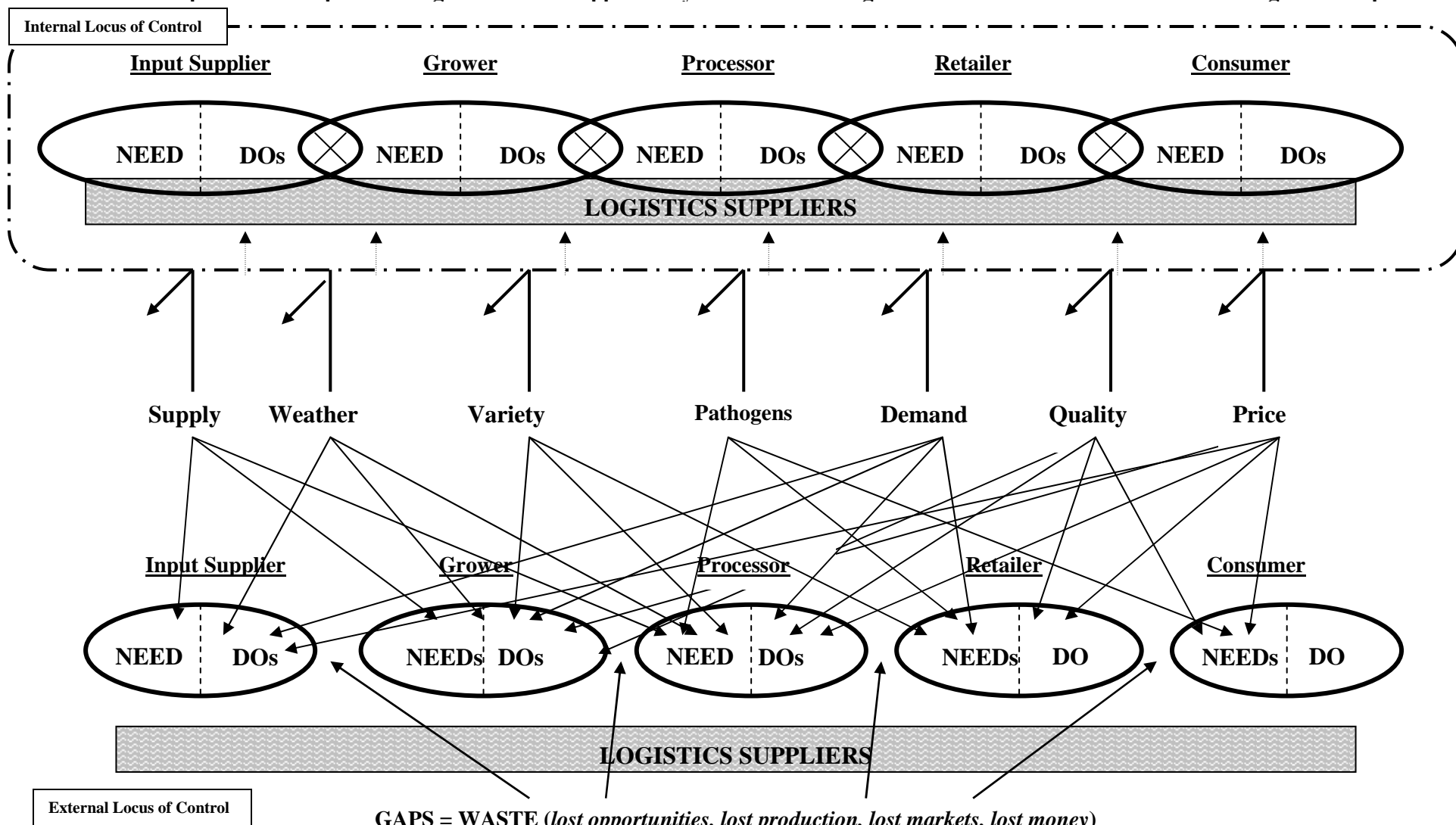
Adapted from: Engelbart, F. (2000); Cornwell, F. (2000); Bouma, J. (1999)

Value chain alliances are formed in response to consumer demand to meet a specific market opportunity and benefit all parties. They are a mechanism that allows companies to successfully respond to market drivers by aligning their operations to maximize efficiency and effectiveness, and drive out unnecessary costs, ultimately increasing the value that consumers perceive a product to offer. Hence the name “value” chain.

While predominantly vertical in structure, value chains often include horizontal aspects (such as cooperatives). Value Chain Management does not discriminate about whether the resources and infrastructure used to perform any operation or procedure are owned by one or many; regardless of where the organization(s) sit in the chain.

Appendix C – Locus of Control

Integrating operations so that suppliers' operations (their *do's*) match customers' *needs* allows organisations to develop an internal locus of control, which creates a barrier between themselves and the wider industry. The barrier limits external factors from negatively impacting the value chain's combined operations and provides organisations the opportunity to create a trading environment that aids the smooth running of their operations.



GAPS = WASTE (lost opportunities, lost production, lost markets, lost money)

Appendix D

Six Principles of Effective Value Chain Management

Adapted from Collins & Dunne (2002)

1. Focus on customers and consumers

- From where do you source your market research data?
 - Customers, Retailers, Food service industry
 - In store demos, interviews, farmer markets
- How do you encourage consumer & customer feedback?
 - Promotion, packaging, surveys, internet, trade shows, seminars, focus groups
- How often do you research the end market?
 - Competitors, Industry associations, Input suppliers
 - Magazines, Journals, Conferences
 - Information is compared, contrasted, placed in a usable format, and reported

2. Create, share, realize and protect value

- With **your** Suppliers & Customers and **their** Suppliers & Buyers:
 - The perception of value that you work towards is your customers' & consumers'
 - You and your business partners simultaneously digest market-related information
 - The chain systematically identifies inefficiencies / value destruction activities
 - Identify points of greatest value creation and costs
 - Examine performance / value / cost ratio
 - Systematic & collaborative search for improvements
- Identify the financial value your product can secure in the marketplace
 - Identify ways to share financial returns amongst the alliance in relation to value created
 - Distribute returns according to value created & associated costs
 - Calculate the financial incentives required to ensure alliance members remain committed
- Identify methods to separate operations and returns from the commodity mindset
 - Establish a governance system that covers the financial aspect of maintaining an alliance
 - Implement methods along the chain to identify & eradicate operations & processes that add unnecessary costs to the end product

3. Get the product right – every time

- What problem are you solving for the consumer?
 - what does the consumer want which is currently not provided / guaranteed
- Does your product meet customer & consumer needs & wants?
 - customer / consumer feedback is used to identify and prioritize problems
 - customer / consumer complaints are viewed as an opportunity to improve operations
- Does the packaging embellish the product?
 - provide necessary information, promote the product, tell a 'story'
- Does the packaging completely serve its purpose?
 - protection, logistics, shelf-life, display, aesthetics, value expansion
- What additional information do consumers want?
 - format, medium, style, target audience, description
- How does your product compare to competitors' ?
 - "value proposition", budget item, quality, information, consistency, place

4. Ensure effective & efficient logistics / distribution

- How do you monitor the integrity of logistics?
 - including: temperature, handling, inventory levels, gas / hormone levels
- Are unsuitable products shipped together?
 - Eg. ethylene producing and sensitive products, or require different temperatures
- Do you correlate product outturn and input issues?
 - effective use of resources, yield, process improvement,
- Do similar issues regularly arise with customers?
 - do you track complaints, returns, rejections, “distressed sales”
- How timely / dependable are your logistic agents?
 - collection, delivery, handling, damages,

5. An effective information and communication strategy is in place

- What information is vital to your operations?
 - Inc. Forecasts, POS, Shrinkage, Yield, Specifications
 - How is this information used?
- What currently unavailable information would improve yours or others’ operations?
 - Regularity, format & who the information shared with and when **Why?**
 - Could benefits be achieved by sharing other information with alliance partners?
 - How is this information used? Can it be used better?
- What is your information-sharing strategy?
 - How is the information exchanged?
 - What feedback and discussion opportunities does the strategy include?
 - Is all information shared through the most effective mediums? Yes, no, why?
 - How do you ensure timely & accurate sharing of qualitative & quantitative info?
- How, when, where do the VC partners share info?
 - Is role, responsibility, accountability, benefits, results adequately communicated?

6. Build and maintain effective relationships

- Are the partners’ / strategies complementary?
 - How do you ensure they remain complementary and relative?
- How often do senior managers meet?
 - Who, what, when, why, objective, format, proactive / reactive
- What are performance measures and incentives based on?
 - Individual or partner focus, market share, profitability, yield
- Do alliance partners visit each other’s operations?
 - Objective, format, who, why, where, when, how
- Do organizations share or second employees?
 - Information exchange, empathy creation, cooperation-building
- Are inter-organization workshops arranged?
 - Format, facilitator, objective, type and level of personnel, outcome
- What processes are in place for the alliance members to learn as a team?
 - Does this process encompass the effective creation and sharing of knowledge?
 - Is success celebrated as a team in order to encourage further learning?