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Characterizing the Determinants of Successful Value Chains

A PAPER PREPARED FOR THE CANADIAN AGRI-FOOD POLICY INSTITUTE

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About this publication

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Executive Summary

Value chain management (VCM) is more than a theory. It is a strategic business approach that is helping a growing number of businesses increase their long-term competitiveness. It would be extremely difficult, if not impossible, to achieve such competitiveness by operating as an individual business within a fragmented value chain. The primary purpose of this paper is to address misconceptions surrounding value chains and VCM. The paper provides an informed, objective perspective on VCM by demonstrating how value chains operate at the business level rather than the sector or sub-sector level. It also describes the factors required for effective VCM. In doing so, the paper provides a basis for more informed and sophisticated discussions to occur on developing initiatives that could lead to a more competitive and profitable Canadian agri-food industry. The report is based on empirical research completed by the Value Chain Management Centre and other researchers. It is also based on the commercial experience of the primary author, Martin Gooch.

The concept of VCM emerged from the realization that appreciable and continual improvements in system design and performance can only occur when businesses seek closer coordination and integration with suppliers and customers than traditional, transactional buyer-seller relationships allow. Developing closer strategic relationships with customers and suppliers enables businesses to learn and adapt more effectively than if operating unilaterally. This paper uses real-world examples to illustrate the sustainable, competitive benefits that a number of businesses have achieved by working with other members of the value chain. A number of the examples are also used to illustrate the impact that the external environment can have on the nature, structure, and competitiveness of a value chain. Differences in the leadership approaches and management processes that determine the structure and nature of value chains are defined by comparing factors associated with fragmented, cooperative, coordinated, and collaborative chains.

The real-world examples illustrate five important requirements relating to effective VCM. The first is that the decision to form and the ability to sustain a closely aligned chain depends on the attitude of the participants. The second factor is that the extent to which members of a value chain are motivated and able to learn and adapt as a strategically aligned system determines their own and the overall value chain's competitiveness. The third is the extent to which the internal dynamics of the value chain, and the external environment in which the chain operates, can positively or negatively affect the chain's ability and motivation to acquire knowledge and then translate it into actionable management decisions. The fourth is that a value chain's success is determined by its adherence to a certain set of principles. It is not determined by how specific value chains put the principles into operation and then monitor their operations and enforce management decisions. The fifth is that focusing on labels to evaluate a value chain is a pointless task. The focus needs to be on understanding how and why a value chain is managed in a certain fashion, on understanding the organizations and individuals that comprise the value chain, and the factors which determine the nature of the business relationships that bond, or fail to bond, the chain together.

This paper concludes by providing a high-level comparison of value chains and value chain roundtables. It illustrates why differences exist between the discussions that occur within the two entities, and what the separate entities are able to achieve. None is more important than the other; they each have a role to play in enhancing the competitiveness of commercial businesses, sectors, and industries. The paper provides the example of a five-year Australian initiative, formed in 2002, to help strengthen the competitiveness of that nation's industry by championing value chain research, training and industry consultations. The objective is to develop a whole-of-government approach to competitiveness related issues.

1.0 Introduction

1.1 Objectives

The benefits to businesses of moving away from producing undifferentiated commodities and exercising greater influence on the overall process of growing, processing, and marketing agri-food products have been extensively researched and documented. Researchers and managers of commercial businesses have stated that working with other members of their value chain helps businesses increase revenues, reduce costs and manage risks more effectively. Such commentators include Beard (2008), Boehjle (1999), Collins (2011), Cowins (2007), Dunne (2008), EFFP (2004), Fearne (1998), Gooch *et al.* (2011), Santiago (2007) and Senge *et al.* (2006).

This paper uses the term Value Chain Management (VCM) to describe the processes businesses use to manage their own operations and influence the operations of others in their value chain. VCM is a reiterative process that takes time, resources and skill. To increase the Canadian agri-business industry's understanding of VCM as a business model, this paper has four objectives:

1. Use real world examples to describe why the terms "fragmented," "cooperative," "coordinated," and "collaborative" constitute a more suitable method for characterizing the structure and nature of value chains, and their relative ability to exploit long-term competitive opportunities, rather than attempting to determine a chain by whether it is a "supply chain" or a "value chain";
2. Present a concise description of the benefits of different forms of value chains, the process that led to their development, and the factors that led to their sustainability;
3. Detail factors that have been found to affect the success of value chains; and
4. Illustrate that value chains and value chain roundtables, though they are different constructs, reflect certain similarities.

1.2 About the report

The report is based on empirical research completed by the Value Chain Management Centre and other researchers, along with the commercial experience of the primary author, Martin Gooch. Martin has worked in the UK, New Zealand, Australian, and Canadian agri-food industries, and has assisted the development of successful value chain initiatives that have won domestic and international awards of excellence. He holds farm management qualifications, a bachelor's degree in International Business, and a master's degree in Value Chain Management. His master's thesis analyzed critical success factors for forming and managing perishable food value chains. He is currently finalizing his PhD, which is evaluating the effectiveness of experiential learning for enabling and motivating farmers and agri-food business managers to develop the skills required to increase profitability and competitiveness by adopting value chain management practices.

2.0 Value Chain Management

In a business environment typified by technological innovation, industry consolidation, deregulation, and changing consumer demands, traditional management approaches are proving to be increasingly ineffective in enabling businesses to remain profitable. Businesses are therefore being forced to find new ways to compete in agriculture and agri-food, as much as in any industry (Boehlje, 1999; Senge, 1997; Senge, Dow and Neath, 2006). Value chain management (VCM), the deliberate decision by members of a value chain to combine their resources to improve competitiveness, is proving a powerful strategic approach that enables organizations to adapt to a rapidly changing business environment (Bonney *et al.*, 2007; Collins, 2011; Dunne, 2008; Fearne, 2007; Taylor, 2006; Collins *et al.*, 2002).

The concept of VCM emerged from the realization that appreciable, continual improvements in system design and performance can only occur when businesses seek closer coordination and integration with suppliers and customers than traditional transactional buyer-seller relationships allow (Sparling, 2007; Gruen, 1997; Wilson, 1995). By developing closer strategic relationships with customers and suppliers, businesses can learn and adapt more effectively (Cohen and Levinthal, 1990; Spekman *et al.*, 1998). Through co-innovation, multiple firms working together through shared goals and integrated processes can simultaneously improve their performance far beyond what they could achieve by operating as individuals (Bonnie *et al.*, 2007; Fearne *et al.*, 2008). Co-innovation allows businesses to improve activities not only within their own operations, but between businesses. Co-innovation is a process that provides businesses with competitive strengths that are extremely difficult for others to compete against without themselves adopting a VCM approach (Collins, 2011; Bonney *et al.*, 2007). Several of the examples described later in this report illustrate the sustainable and competitive benefits that businesses have achieved by co-innovating with other members of their value chain.

3.0 Value Chain Structure

3.1 Moving Beyond "Value Chain vs. Supply Chain"

Many attempts have been made to differentiate between "value chains" and "supply chains." This paper argues that, while such efforts make for an interesting theoretical exercise, the differentiation is in fact impractical. There are at least five reasons:

1. Making a black or white assumption, where opposites only exist in isolation as one trumps the other, reflects a lack of understanding about a given topic (Ison and Russell, 2000);
2. Management is a reiterating process; like any skill, the process of successfully managing a value chain has to be learned. As managers' VCM skills grow, so does their ability to enter into increasingly sophisticated commercial arrangements and achieve a broadening array of commercial opportunities (Womack and Jones, 2005; Kidd *et al.*, 2003);
3. Other than in exceptional cases, sudden changes to how a business is managed will invariably lead to employees reverting to their old habits and part or complete failure of an initiative (Hamel, 2002);
4. There is not one type of value chain. Value chains come in various forms, each typified by a certain structure and set of characteristics (Dunne, 2003; Spekman *et al.*, 1998);
5. Various elements of the same chain can be at different stages of development in terms of the relationships that exist between businesses and how much they are able and/or willing to utilize their relationships for strategic advantage (Gooch *et al.*, 2011; Beard, 2007; Collins, 2007).

For these reasons, a supply chain cannot suddenly morph into a value chain, and a straightforward simplistic analogy is misleading. Every business belongs to a chain, and the commercial opportunities and challenges to which a business is exposed are determined by the way a business operates in relation to its customers and suppliers (Collins, 2011; Dunne, 2001; Spekman *et al.*, 1998). Therefore, the following section presents an objective method for describing the types of value chains that exist. Each description reflects the approach that businesses have taken to managing their own operations and interacting with the operations of others in their value chain. How the businesses that form a value chain interact with one another and with their target consumer determines how the chain is structured.

3.2 Comparative Differences in Chain Structure

The following section describes the different structures that exist among value chains operating in the international agri-food industry. Value chains fall into four distinct structures. These structures reflect a continuum that spans from traditional open (spot) market approaches, to businesses that are closely aligned to the point that they may jointly invest in infrastructure and resources (Dunne, 2003; Spekman *et al.*, 1998). For the purposes of this paper, the four types of value chains that inhabit this continuum are referred to as fragmented, cooperative, coordinated, and collaborative. While it is unlikely that a specific value chain will fit neatly into one of the structures presented in this section, the typologies provide a useful method of assessing and comparing the relative nature, benefits and challenges associated with each approach. The graphics and matrix were developed through a review of current academic literature and empirical studies, along with research completed by the Value Chain Management Centre. This process ensures that the descriptions accurately represent the structure and nature of value chains operating in the Canadian and international agri-food industry.

Below are a description and simplified diagram of the four types of value chain structures. For simplicity, the diagrams illustrate chains that comprise only three links. These diagrams form Figures 1, 2, 3, and 4. This section is followed by a matrix that describes the key factors that determine how each structure operates. The matrix is presented below in Table 1. A more detailed version of the matrix is in Appendix 1.

Fragmented: Companies primarily compete on a traditional trade footing. The majority of business is conducted as a series of short-term, one-off transactions. Price, volume, and quality are commonly paramount to business dealings. The primary onus of strategic decisions is on self-preservation and sharing the bare minimum of transactional information, for fear a company's insights are used against it. Typically, the result is a fragmented chain comprised of businesses that share adversarial and distrusting relationships. These types of businesses often look to past experiences for solutions to current challenges, and have little opportunity to utilize the resources of other members of the value chain. As a result, they are limited in their ability to effectively and efficiently adapt to changing market demands.

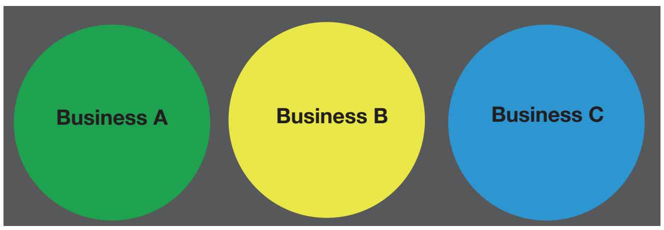

Figure 1: Fragmented Value Chain

Cooperative: Companies possess a mutual understanding of how and why they can benefit from cooperating with one another over the medium term at an operational level, rather than undertaking specific short-term or one-off business deals. The attitudes and culture of the businesses involved will determine whether a chain's structure can develop into a more strategically aligned approach, where the partners can utilize one another's capabilities for commercial advantage. Whether such an approach is feasible may also be determined by the environment in which the chain operates and in which it competes against other chains and businesses.

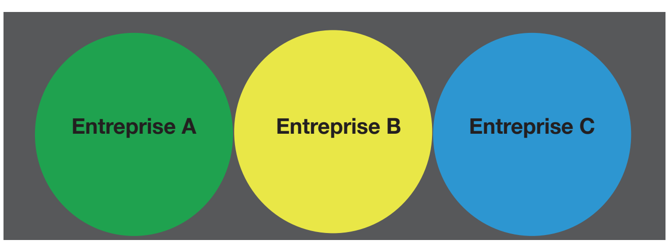

Figure 2 Cooperative Value Chain

Coordinated: Companies with complementary attitudes, cultures, and leadership styles choose to coordinate their business arrangements over a short to medium timeframe. A more strategically aligned structure than the one exemplified above causes at least part of the chain to think and act from a strategic – and not only operational or tactical – perspective. A strategic perspective arises from operating in an external environment that allows this type of approach to occur. Over time, the participants come to steadily acknowledge the benefits of conducting medium-term business deals with chosen suppliers and buyers, leading to increased levels of commitment and the development of more sophisticated value chain management capabilities.

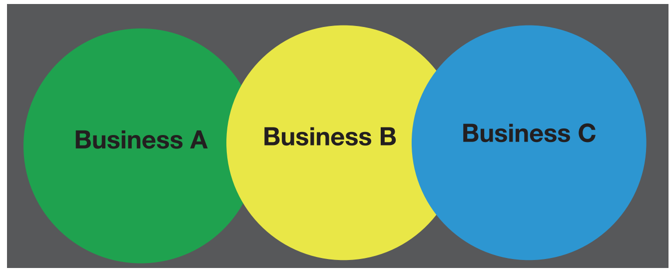

Figure 3: Coordinated Value Chain

Collaborative: Companies engage in longer-term strategic arrangements that involve collaboratively sharing resources and/or investing in the capabilities required to achieve mutually beneficial outcomes. Successfully adopting this type of model requires the involved businesses to possess compatible cultures, vision, and leadership. It also requires an external environment that is conducive to supporting and enabling such an approach. While the model can undoubtedly produce greater rewards than the three alternative models, it also generates increased risks, particularly for businesses that are still developing (as opposed to refining) their value chain management skills.

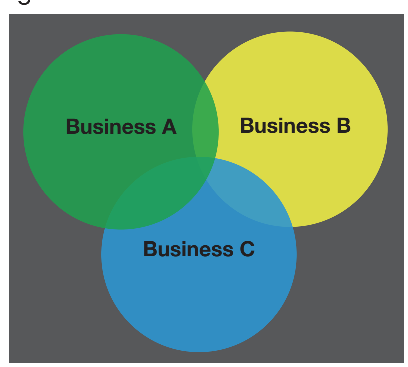

Figure 4: Collaborative Value Chain

3.3 Comparative Matrix

The following matrix presents a concise comparison of how structural and operational factors differ across value chain typologies, along with the resulting benefits and risks associated with each arrangement. An expanded version of Table 1 forms Appendix 1.

Table 1: Four Primary Chain Structures

Characteristics	Chain Structure: Fragmented	Cooperative	Coordinated	Collaborative
Strategic Factors				
Each members' strategic orientation	Self interest	Self interest, mutual benefit	Mixed interest, self benefit	Mutual interest, mutual benefit
Extent to which value chains' and businesses' strategies are aligned	Not unless accidental	To a limited degree	Closely, regularly evaluated in relation to specific goals	Extensive, regularly monitored in relation to specific goals
Economic relationship to the wider industry	Business occurs in an environment shaped largely by external forces	External forces have greatest impact on shaping business environment	Business environment shaped equally by internal / external forces	Chain forms economic environment in which business occurs
Most important benefit	Traditional business model, no new skills required	Provides opportunity to learn/adapt with little risk	Enables cost reductions and revenue gain	Enables co-innovation, unique strengths
Governance Arrangements				
Existence of a chain champion	No	Perhaps, most often not	Usually clearly defined	Defined and articulated
Presence of trust and commitment	Little existence of either	Limited existence of either	Considerable existence of both	Extensive existence of both
Mechanisms to prevent freeloading	Little to none	Limited	Usually significant	Always extensive
Financial				
Ownership structure	Within physical boundary of individual business	Within physical boundary of individual business	May have joint ownership, usually in delivering services	Often jointly own service provider and/or infrastructure
Financial focus, basis of negotiation	Maximize own profitability	Enhance own profits	Increase own profits first	Protect/increase profits
Primary method of mitigating risk	Short-term focus, seek to pass risk onto third parties	Limit catastrophic risk through using preferred suppliers	Medium-term focus, try to ensure correct accountability	Long-term focus; regularly monitor, ensure accountability
Communication				
Key attitudinal characteristic	Primary focus is towards own operations and personal gain	Work closely with others	Each member views itself as part of interrelated system	Each member views itself as part of aligned interlinked system
Nature of business communication	Short-term; often untimely and inaccurate, limited details	Short to medium-term; often untimely, limited details	Short to medium-term; usually timely, accurate, detailed	Short, medium and long-term; timely, accurate, detailed
Key factor sustaining chain	Ability to trade	Able to use others' skills to enhance own trading ability	Ability to learn and influence others through emotional intelligence	Ability to learn as a system, then act on new knowledge
Operations				
Primary focus of chain's operations	Immediate customer	Customer's customers (to a degree)	Customers and consumers	Target consumers
Number of customers and suppliers	Many customers, moderate importance; many suppliers	Many customers, range in importance; many suppliers	Fewer customers, range in importance; fewer suppliers	A few important customers; often few suppliers
Level of technological integration	Basic, transactional	Usually basic, transactional	Moderate	Moderate to extensive
Performance measures	Mainly subjective	Limited objectivity	Subjective and objective	Objective, consumer-driven

3.4 Summary of Matrix

The preceding matrix shows that a value chain's structure is predominantly an outcome of the leadership, culture, attitude and management processes of the businesses and individuals that together comprise the chain. Combined, these factors create the enabling environment within which the businesses operate and the relationships that bond the businesses together. The matrix also illustrates that the further along the continuum that a chain resides, the less impact external forces will have on the way it operates and the factors from which it derives its competitive strength. And the more it will reflect the seven principles which Collins and Dunne (2002) determined as the requirements of effective value chain management. It is this combination of factors that provide value chains and the involved businesses with competitive strengths that are difficult, if not impossible, for competitors to replicate. The seven principles that reflect effective VCM are:

1. Share a clear vision and common goals
2. Possess capabilities to create value
3. Have a culture that supports cooperation and learning
4. Have compatible partners
5. Proactively manage the relationship
6. Regularly evaluate and report
7. Continually adjust to changing circumstances

The next section of this report expands on the concepts presented in the matrix, by describing specific value chains where the involved businesses have purposely aligned their strategies and/or operations to differing degrees. In many cases, this alignment has allowed them to achieve an outcome that would be impossible if they had continued to operate individually. The terms cooperative, coordinated, or collaborative are used to reflect the predominant structure of each example. Where appropriate, the descriptions refer to specific factors that undermined the performance, structure, and competitiveness of each value chain.

4.0 Comparative Analysis

This section describes the differences in how value chains that predominantly reflect a cooperative, coordinated, or collaborative structure operate. It illustrates the impact each of these arrangements has on the performance of the involved businesses and the overall chains to which they belong. This section also highlights the extent of the strategic opportunities that each of the chains has been able to exploit, and how these opportunities were a function of a chain's structure and method of operation. That the chosen chains encompass different sectors and countries illustrates the transferability of the value chain management concept. Notably, it is not the sector in which it operates or its location that determines a chain's structure, nor the opportunities that it is able to exploit or the risks it is able to mitigate. Rather, it is the attitude and capabilities of the participants, both of which can be influenced by the external environment in which they operate. Footnotes provide details of where to access further information on each of the value chains.

4.1 Little Potato Company, Canada (Collaborative chain)[1]

Overview

Founded in 1996, The Little Potato Company (LPC) is a family-run business based in Alberta, Canada. Founder and shareholder, Jacob van der Schaaf, wanted to emulate the small potatoes he had enjoyed from his European background. He turned a concept into reality by working with his daughter, Angela Santiago, who assumed the role of value chain champion. Santiago is also LPC's CEO and primary shareholder.

The company began by growing a one-acre test plot of potatoes and selling them through farmers markets. They gained consumers' feedback from restaurants before approaching their first retailer, who took their entire crop. From this small beginning, they developed an entirely new category in the fresh vegetable market. LPC is the only company in North America to specialize in working with the entire chain to produce, pack and market little potatoes. The company achieved this distinction by working with like-minded and capable partners to establish a value chain that comprises five primary links. In addition to LPC, the links include seed breeders, growers based in Canada and the US, key retail and foodservice customers, and consumers. LPC, producers, and seed breeders developed the capacity to innovative directly in line with consumer desires by working closely with retail and foodservice customers to test and develop new varieties. As well, they utilize a closely aligned feedback loop that enables them to constantly improve operations and processes at all stages along the value chain. Reflecting the concepts presented in Section 3, a map of the LPC value chain forms part of Appendix 2.

1 http://www.littlepotatoes.com/; http://www.valuechains.ca/documents/LITTLE%20POTATO%20COMPANY.pdf

Strategic Approach

LPC and its committed partners have worked together to establish the strategic capabilities that have, in turn, allowed them to develop a unique value proposition by producing a product that commands a premium price, often while reducing costs. Three fundamental concepts guided the development and ongoing strategic and operational management of the LPC value chain:

1. Customer and consumer focus: The vision shared by chain champion Angela Santiago is that the success of LPC and its partners comes from producing potatoes that appeal to target consumers' definition of value, and from delivering uninterrupted supplies of consistently high-quality products. Given that quality results from many factors (including variety, growing, and harvesting conditions, storage conditions, packing, shipping, and handling to and at the retail location), maintaining such high-quality standards would be impossible without the existence of strategic and operationally aligned businesses. To help the chain continually manage quality throughout the year, LPC uses a distribution business that provides regular feedback on activities occurring at the retail store level, and on any quality issues it sees arising at the point-of-sale

to consumers. This input allows LPC to compare point-of-sale product performance with proprietary information acquired from upstream operations, and use the resulting insights to make informed management decisions.

2. Product Differentiation: Owning proprietary varieties and having in place the correct processes has enabled LPC to establish a strong brand recognition and value differentiation in what continues to be largely a commodity-driven category of the produce department.
3. Sharing Benefits: All partners are jointly involved in creating and capturing value. Their commitment and accountability is reinforced through a governance system which equitably shares financial rewards according the performance of their business in relation to the overall chain and pre-determined targets.

Governance

LPC believes that the chain's sustainability depends on four factors. Together they underpin a governance structure that lets the chain attain a high level of performance while continually innovating developing new products and processes. These four factors help the chain continually adapt to changing customer and consumer demands, and defend its position in the market.

1. Leadership and Direction

The LPC Board provides strong strategic direction and leadership. Early on in LPC's history, it was found that the composition of the board impaired the company's ability to align its activities with other members of the value chain. The Board's composition also made it difficult to determine precisely who along the chain should be accountable for what level of decision making and reporting. The Board was too focused on the producer. By contrast, the current Board includes a grocery retail expert, the owner of a regional hotel group, an experienced agri-food management consultant, and a small number of carefully chosen primary producers. Approximately half of the Board are shareholders and the remainder are paid advisors. In addition to Board meetings, the Board meets as separate committees that work with industry experts and champions situated at different levels of the value chain (e.g. Brad Bartko, a seed multiplier and potato grower). These committees identify opportunities that will enable the chain to constantly innovate in line with market opportunities.

2. Managing and Delivering Quality

LPC has implemented strategies, systems and protocols for managing the determinants of quality in order to meet the demands of increasingly sophisticated customers. To ensure that each partner is motivated to continually seek opportunities to improve their own and the overall chain's operations, LPC contracts the growing to a dedicated group of farmers. It also owns a modern processing plant that cleans, sorts and bags potatoes ready for sale, and works with a dedicated seed company to develop small potato varieties. LPC then trials and acquires the proprietary rights to varieties which are deemed to offer sufficient value from consumers' perspectives, while offering growers economically viable returns. With representatives of the entire chain, LPC regularly shares and reviews information on the operations of the overall chain and the performance of individual growers, including current and promising varieties.

3. Marketing

LPC has developed marketing programs that are enabling the company to position itself as the category leader with selected retailers. By involving only those businesses who share its cooperative vision, and by viewing the ownership of unique proprietary varieties as a tool that cannot be easily duplicated by competitors, LPC has been able to establish a unique market presence and a competitive advantage, whether branding products under its own or a private (retailer) label.

4. Systems, Strategies and Long-Term Growth

At LPC, day-to-day management decisions consistently reflect a longer-term plan. LPC realizes that continually improving performance means accurately measuring operations according to Key Performance Indicators (KPIs) and involving other members of the chain in monitoring, reporting, and suggesting/implementing improvements. Following this approach helps minimize the potential for freeloading that would otherwise undermine the chain's overall performance and lessen its ability to innovate directly in line with consumer-recognized value.

Sustainability

LPC has overcome competitive threats by facilitating open communication throughout the value chain, and establishing clearly defined, measurable roles and responsibilities. This allows LPC to use chain participants' knowledge and resources to develop the skills necessary to consistently deliver and market potatoes that look, perform, and taste differently than commodity potatoes. This process also ensures LPC can ensure each participant is held accountable for its own performance in relation to predetermined goals and objectives. By employing this approach, the company creates an ongoing point of difference for customers and consumers by continually responding to competing products and changing market demands.

4.2 Fresh Pork[2], Canada (Cooperative chain)[3]

Overview

This description comes from the confidential analysis of a value chain operating in Canada. The chain handles fresh pork and has seven links, stretching from grain production (for feed), to hog production, through to consumers purchasing fresh pork from a specific sub-set of the retail sector. Reflecting the concepts presented in Section 3, a diagram depicting the value chain's structure forms Appendix 2.

Strategic Approach

This chain is different from others examined in this paper. It is quite fragmented and primarily employs a transactional rather than strategic approach to business. With the exception of the relationship that exists between the distributor and retail stores, it more closely resembles the fragmented commodity industry than the more effective and efficient chains described elsewhere in this paper. In the other examples, a chain champion emerged and fostered a vision other chain members adopted. But in this chain, recognized champions existed only at various levels of the chain and their influence over the businesses decisions of others was marginal. This occurred because no one had actively tried to use existing relationships as a strategic differentiator, and not because the chain participants suffered from poor relationships with one another. The business-level champions that existed along the chain included a hog producer, an owner of the hog processor, and the CEO of the distributor.

Because the chain's members had limited interaction with one another, or with consumers, they had a poor understanding of what consumers valued. In fact, an inadequate understanding about what determined consumer behavior led to many decisions being based on assumptions. A key assumption driving management decisions was that consumers primarily buy pork on price alone. A second assumption was that little if anything could be done to enhance consumers' perception that fresh pork is not just a commodity. This left the chain with few strategic options, and it was unable to develop and market value-added products. As a result, the chain continued to focus on price as the primary method of retaining market share. It also meant that the chain's participants possessed little desire to explore strategic opportunities that could help differentiate itself from the wider industry. Such opportunities might have included developing a pricing model that would motivate producers to produce a hog whose attributes directly reflected consumers' perceptions of value. Instead, the chain continued to adhere to a CME pricing model that produces a generic hog more suited to producing pork for processing than as fresh meat that could provide a superior eating experience.

Governance

With no overarching chain champion, the chain also had no overall chain governance structures in place. Most of the lines of communication that existed within and between the businesses situated along the value chain were quite weak. This affected the relationships that existed between and within the individual businesses, and hurt their ability to develop and implement medium- to long-term programs or to monitor the effectiveness of operations.

Without a governance structure, the chain was unable to mitigate injurious impacts that the wider industry had on its operations. For example, the retailer was keen on moving high volumes of pork when the processor offered

2 For commercial confidentially this value chain is anonymous.

3 http://www.valuechains.ca/documents/Pork%20Case%20Study%20Final.pdf

it at a low price. This occurred during weeks when a processor was not supplying alternative retailers with pork for their promotions; consumers learned to time their purchases according to cyclical pricing decisions made by this and other retailers, causing the chain to be caught in a "Catch-22" situation. Since the chain failed to see the value of fresh pork beyond its use as a commodity, it put little effort into innovation and differentiation. Consumers looked to buy pork from this particular retailer because it was not on offer elsewhere, and not because they thought it offered them a particular value proposition for which they were prepared to pay.

The processor determined many of the management decisions occurring along the value chain. This limited the ability of the distributor and retailer – the only two parties along the chain where both the lines of communication and relationships are strong – to use their existing relationships to differentiate the chain from the wider industry. It also prevented the chain from developing the infrastructure, along with the capacity, skills, and incentives, to produce and market higher-quality fresh pork products. Poor communication and a lack of processes, infrastructure, and monitoring capabilities made it inevitable that waste occurred at numerous points along the chain. As a result, the chain was both unable to create or capture added value through increasing revenue, and unable to minimize costs to the extent that would have been possible if a more effective governance structure had been in place.

Sustainability

With limited exchange of information and relationships that are transactional rather than strategic, the chain's long-term survival may rest more on decisions made by the wider industry than those made within the value chain itself. The research concluded that the chain could take advantage of opportunities to capture greater value by differentiating itself in the market by developing the capabilities required to produce pork that offers consumers a superior eating experience. This would require it to evolve into a coordinated chain, where business relationships are used strategically to achieve specific competitive advantages. Strategically aligning its grain, feed, hog production, hog processing, and marketing/merchandizing operations would enable the chain to learn and adapt as a system, leading to a further strengthening of its long-term competitiveness.

4.3 Warburtons, Canada/UK[4] (Canada = coordinated; UK = Collaborative)

Overview

Established in 1876 and headquartered in Bolton, England, Warburtons is the UK's largest independent manufacturer of bakery products. A fifth generation family-run business, Warburtons' core philosophy is to deliver fresh, great tasting, high-quality products by continually improving operations and processes along the entire value chain. Even though its loaves can sell for five times that of the "value-based" alternatives, often retailed under private label brands, attention to detail has enabled Warburtons-branded bread to capture 24% market share in the UK bread market (Teather, 2010). Today, it produces and markets two million products daily from 14 bakeries and 15 depots.

Having once been a small regional company with 2% of the UK bread market, Warburtons embarked on a large expansion program in the late 1990s, which continued in the 2000s. In 1998, following the success of the value chain sourcing Canadian wheat, Warburtons tested a similar arrangement with Openfield (formerly called Centaur Grain), the UK's largest dedicated wheat marketing company. The dual sourcing arrangements allowed Warburtons to combine UK and Canadian wheat to produce flour that precisely meets its baking requirements. Warburtons has innovated and grown its market share by developing detailed insights into operations along the entire value chain, understanding the impact of differing factors on end quality, and being able to influence management decisions from seed production to flour milling. It has become the UK's second-bestselling food and drink brand after Coca Cola (Warburtons, 2011). A map showing differences between the structure and operations of the English and Canadian elements of Warburtons' value chain forms Appendix 2.

4 http://www.warburtons.co.uk/; http://www.openfield.co.uk/; http://www.valuechains.ca/interactivedvd.htm

Strategy

Warburtons' value chain initiatives stem from a crisis in 1992, when, with little warning, the company was unable to use that year's Canadian harvest due to quality issues. In analyzing the value chain, Warburtons realized that the non-environmental causes of the quality problems that had occurred over preceding years included: farmers' moves towards high-yielding varieties that did not suit Warburtons' baking processes; industry's focus on producing consistent quality vs. ideal quality for specific customers; wheat was not graded on all the key attributes that influenced the quality of the bread that it produced; and the end quality of the wheat delivered to millers in the UK could be compromised at multiple points along the entire value chain. Warburtons saw that it could address many of these issues by taking a VCM approach to managing the determinants of quality. Having successfully sourced Canadian wheat, Warburtons tried a similar arrangement in 1998 with Openfield.

Warburtons' Purchasing Director was the chain champion who led the development of the initial chain. He believed Warburtons and its business partners could better satisfy customers and gain a competitive advantage by working together to control quality and manage costs.

Suppliers benefit by providing Warburtons' plants with better quality flour than that obtained by competing manufacturers. Possessing intimate knowledge of factors impacting end quality and the entire array of characteristics of the flour long before it arrives at their baking plants also enables Warburtons to innovate faster and more directly in line with consumer demands. The constant two-way flow of information enables everyone along the chain to make informed and timely management decisions, leading to more efficient and effective operations and a more appropriate investment of resources. Ultimately, this approach has lessened the business risk for everyone, from producers through to Warburtons, and led to the building of strong, interdependent relationships.

Governance

There are essentially eight links in both the UK and Canadian chains: seed breeders, producers, grain elevators, transport providers, millers, Warburtons, retailers and consumers. Like many chains, the Warburtons' chain features individuals and businesses that play a crucial role in coordinating less strategically aligned elements of the value chain. The strategic coordinators are known as chain champions. Retailers are viewed as an avenue to market, and are important partners that enable Warburtons to continually research consumer purchasing habits and attitudes.

Warburtons uses the resulting insights to help set the contracts it offers producers and the pre-agreed premiums it will pay for wheat that meets its quality requirements. Once granted, it abides by the agreed arrangements, even if the commodity price for wheat of a similar quality is lower in any given year or if the volume of production exceeds Warburtons' needs. In return for standing by its producers, Warburtons expects nothing less than complete trust and commitment to its program. This is clearly communicated to producers, who are aware that any deviation from acting responsibly and in a trustworthy fashion will result in immediate suspension from the program, with no chance of supplying Warburtons in the future.

Canadian vs. English Chain

In the last two decades, the comparative importance of Canada as Warburtons' primary source of wheat has waned. This is due to internal factors that influence how the English vs. Canadian elements of each chain operate (e.g., differences in how growers are coordinated, along with the attitude and aspirations of those involved), and factors that shape the external environment in which each of the value chains operate (e.g., legislation, regulations, and geographic location). The change in comparative importance is the direct result of the English element of the chain being able to innovate at least five to six times faster than the Canadian elements.

There are a number of differences in how the two elements of the value chain are managed and operate. For example, the English elements of the chain have developed a closer strategic relationship to Warburtons and possess greater sophistication in translating lessons learned into innovative solutions. In the UK, grain production and marketing is overseen by a strong chain champion named Graham Lacey, Openfield's Commercial Director. Lacey works very closely with Warburtons' Director of Purchasing, Bob Beard. In Canada, instead of a single chain champion with the same position or influence of Lacey, there are numerous different entities and individuals, each with competing interests. Another example is that there are key differences in the Canadian and UK pricing models. The Canadian system is essentially a blunt premium paid for wheat that meets a certain quality benchmark, agreed on one year in advance. The UK model uses an algorithm reflecting multiple attributes, which is agreed on up to five years in advance. Furthermore, in England, prices and pricing strategies are negotiated between Warburtons and Openfield on behalf of their producer members, all of whom have direct commercial interests in the initiative succeeding. In Canada, prices and pricing strategies are negotiated between Warburtons and the Canadian Wheat Board (CWB), which has little direct commercial investment in the initiative itself and whose operations are meant to benefit the entire industry, not one marketing arrangement.

While part of the difference stems from geographic proximity, attitude has the most significant influence on how the two elements operate and what they have been able to achieve. All of the main UK players also have a commercial stake in the chain and are more flexible in their interaction. The Canadian chain is more complex and more rigid than the UK chain. Openfield takes an active role in strategically coordinating and managing each of the links in a more system-based fashion. As well, the operations of the Canadian element of the chain in particular are affected by non-commercial stakeholders that possess political philosophies or agendas that differ from the approaches and attitudes reflected in Warburtons' or Openfield's approach to business.

Other factors play a role in causing the Canadian element to take years to achieve what can be done in England within 12 months. These factors include inflexibilities inherent to the CWB, the Canadian Grain Commission and other institutions. In England, if Warburtons or Openfield identifies a promising variety, it can be grown and commercialized within one year; in Canada, regulatory hurdles and industry structure mean the same process takes multiple years, or may simply not be possible. This type of constraint diminishes the benefits that participants along the value chain can accrue from their endeavours.

Sustainability

Financial results stemming from the Warburton value chain are readily identifiable. By producing and consistently supplying a quality product that resonates with consumers, Warburtons has become the second-largest grocery brand in the UK and is the market leader in the bread category. For producers, the benefits include an opportunity to secure higher premiums and reduce costs by understanding their processes more effectively. It also allows them to plan more effectively over the long term, further reducing their exposure to risk. In addition to having a guaranteed market and access to premium prices or additional management fees, producers are applying lessons learned from the Warburtons' initiative to their operations in other markets, leading to distinct financial benefits. For instance, Openfield is making more informed management decisions throughout the process of producing, harvesting, and marketing grain, regardless of the end customer. This means the company can produce crops of higher value and, often simultaneously, reduce its costs. For example, less than 50 percent of producers' wheat typically meets milling quality. But Warburtons' producers regularly achieve a "hit-rate" of over 75 percent, even in difficult growing seasons. Moreover, these producers possess a supply contract that they could sell with their farm if they wish.

Both of the Warburtons' schemes have expanded considerably since their inception. However, the challenge facing the Canadian element of the Warburtons value chain is to identify how it can evolve so that it does not continue to concede competitive strength to competitors. This will require changes to the internal operations of the chain itself, as well as the external environment within which it operates. Without these changes, it is entirely possible that the English side of the Warburtons system will develop an ever stronger competitive advantage. The English side of the system is more open to sharing strategically important information and has a greater propensity to identify, and then act upon, new opportunities to create and capture value.

4.4 Blade Farming, UK[5] (Collaborative Chain)

Overview

Blade Farming has grown to become one of the UK's largest beef operations. It is a subsidiary of ABP, an Irish processor. The Blade Farming model works on the concept that the cattle it produces are of such consistent

5 http://www.blade-farming.com/ http://www.valuechains.ca/documents/UK%20Beef%20Report%20V4%20062211.pdf;

quality that they are affectively pre-sold to retail customers (including Tesco's, one of the world's largest retailers) or foodservice customers (including McDonald's) prior to conception. To achieve carcass balance, the hindquarters are supplied to retail, the forequarters to McDonald's, and the fillets to restaurants.

Established in 2000 and centered largely in the South Western region of the UK, the initiative grew out of producers' need to remain profitable in the face of increasingly high feed prices. They also needed to access guaranteed volumes of consistently high-quality animals in order to satisfy increasingly discerning and sophisticated customers and consumers. A map of the Blade Farming value chain is featured in Appendix 2.

Strategic Approach

The method by which the chain operates enables ABP to know what animals it will have in the system and the quality of the animals it will be receiving 18 months in advance. A second strategic enabler is the ability to minimize waste and maximize profits by producing high-quality products for which customers and consumers are willing to pay. From conception to processing, all business decisions are based on the results of scientific research into factors impacting eating quality. Negotiations primarily revolve around margins and the performance required for each member of the chain to achieve target margins, not prices received. Notably, the chain views auctions as a source of unnecessary financial risk. Auctions would lessen the chain's ability to produce high-quality products. Avoiding them also ensures its financial performance is not impacted by fluctuating commodity market prices.

There are six contractual links in the chain: dairy; calf rearer; finisher; slaughter; processor; and retailer/ foodservice. Blade Farming acts as chain champion and manages virtually every aspect of the chain. This includes helping primary producers manage the financial risks associated with cattle production. It achieves this by offering a loans program, assessing the level and cause of animal mortality, facilitating contractual negotiations, supporting information exchange, and production planning, as well as buying feed and providing veterinary services on producers' behalf.

Governance

The chain works on a batch system, with Blade Farming acting as the chain champion. The company coordinates the entire chain, ensuring that the processes and procedures lead to the production of the correct animals, at the correct place, at the correct time. They also coordinate the ordering and supply of feed (milk powder, concentrates, etc.) to each of the involved producers. Producers benefit by having access to better prices for feed and veterinary services than if purchasing as individuals. Basing the chain's protocols on scientifically tested processes leads to the production of beef with desired eating qualities. It also provides the chain with greater insights into which combination of feed and genetics result in the best feed conversion rates and beef that offer consumers a superior eating experience. This results in reduced costs and increased revenue. In most cases, the chain starts with Blade Farming purchasing a cross-bred calf from a dairy farmer at aged 14 days. For committed farmers who have a history with Blade Farming, the chain begins by the company offering artificially inseminated straws possessing specific genetics at discount rates. Blade Farming then contracts calf rearers to raise the calves to an age of 14 weeks. The calves are then sold to a finisher on a contractual arrangement whereby Blade Farming will buy the animal back on a pre-agreed pricing arrangement, subject to it meeting specific criteria relating to age of slaughter, yield, fat cover, and weight. This arrangement gives the processor greater control over the calves entering the system. It also provides the processor with deeper insights into the genetics and production methods that result in an animal that best meets its requirements; and lets the processor plan supply and marketing arrangements many months in advance. This process permits Blade Farming to minimize the potential for freeloaders to undermine the chain's performance. This allows operations performed along the entire value chain to focus on guaranteeing profits for all the participants by motivating every link in the chain to coordinate its operations, unencumbered by poor performers. The result is the production of consistently higher-quality beef at a lower cost.

The expectation is that contract weaners will make ~$70 per calf. If performance matches expectations, they also receive premiums that total ~$15 per calf. Weaners are assessed for the numbers of calves that they can put through their system, on a four times per annum (quarterly) rotation. This provides a one-week gap, during which time the pens are sterilized. The process leads to healthier calves, which in turn reduces mortality rates and increases growth rates. Finishers raise the calf according to one of two types of contract. The first offers a guaranteed price, subject to the finished animal's conformation and health. The second is "share the pain or gain." Here, a benchmark price is agreed, with the processor and producer sharing (50/50) any differences between the agreed price if market prices fall below or rise above that benchmark. Finishers can make a margin of $136-$160 per animal. The target finished carcasses weight of 260-270 kilograms is reached by all the cattle within 12-15 months of age.

Sustainability

These arrangements ensure that weaners and finishers receive a group of highly consistent animals. Their ages range by no more than two to three weeks and their health is guaranteed. As well, the processor's exposure to financial risk is minimized. Key performance indicators are well communicated throughout the chain. Calves and producers are also constantly assessed according to specific performance indicators, the results of which are shared at set times during the production period and the year. When the finished animal is slaughtered, the front half goes to McDonald's, the rear half goes to a major retailer such as Tesco's, and the preferred primals go to restaurants. The precise retail marketing stream to which animals are targeted depends on the quality of the meat. Prime quality is aged for 21 days before being retailed as premium quality beef.

As with all systems, some farmers consistently do things well, and others do not. While Blade Farming actively works to prevent freeloaders from being accepted into the chain, it also works closely with committed producers to continually improve performance. Blade Farming has developed the ability to accurately translate the information that flows from monitoring production programs into continuous improvements to the entire system. Every player in the chain knows what he/she will be doing and receiving in a coming year, how their performance will be evaluated, and the rewards/penalties to which they will be exposed if they do not perform as expected. This is achieved by constantly measuring each individual's performance according to scientifically determined KPIs and establishing a cost model that does not take lesser performing farmers into account.

4.5 Livestock Marketing, UK[6] (Collaborative chain)

Overview

Driven by the experience and enthusiasm of its founder and chain champion, Philip Morgan, the Livestock Marketing (LM) value chain is a collaborative tri-party production and marketing initiative that has allowed its partners to expand their market share at twice the industry's average rate. Established in 1993, the chain involves three links: LM, which represents like-minded lamb producers; Waitrose, a national UK retailer with over 200 stores; and a secondary processor, Dalehead Foods. The primary processor, Randal Parker Foods, is a contracted partner. A value chain map is included in Appendix 2.

Starting out with 24 farmers, the initiative now includes over 400 producers who supply Waitrose with Welsh, British, and organic lamb. John Price, one of those original 20 producers, has said that while most producers did not expect Morgan's idea to get off the ground because it was so different from their traditional approach, it has evolved into a "brilliant business." Facilitated by LM, the system has eliminated the need for agents or middleman activities, including auctions. This has resulted in a greater ability to actively monitor and share detailed information on the performance of the overall chain, as well as individual members. Meanwhile, accountability is enforced throughout the entire chain, resulting in improved information exchange, higher and more consistent quality lamb for consumers, and increased profits for all.

Strategic Approach

In establishing the chain, the first stage was to identify and coordinate like-minded producers who were interested in supplying lamb to one large retailer through an equitable, though strongly governed network. Anyone unable or unwilling to perform to the expected standards, or proved insufficiently committed to the initiative, would be let go. From the start, members do not pay fees or sign legally binding contracts. Relationships are instead based on open, proactive communication of standards, expectations, and performance. Farmers who wish to join

6 http://www.livestockmarketing.co.uk/; http://www.valuechains.ca/documents/LIVESTOCK%20MARKETING.pdf; http://www.valuechains.ca/interactivedvd.htm

the LM program must first be recommended by a current member.

After a sufficient number of lamb producers were on board, Morgan and the head buyer for Waitrose negotiated a pilot a scheme supplying farm-assured Welsh lamb from late spring through to early winter 1994. Since then, Waitrose has proven its commitment to the initiative, aided by the dedication to quality of producers. It continued to pay prices well above normal during the collapse of the open market for lamb due to BSE in 1996 and, more recently, the foot-and-mouth outbreaks of 2001 and 2007. Waitrose also regularly provides LM farmers with access to privileged sales and marketing information, which retailers historically do not share. In another industry innovation, LM, in conjunction with Dalehead Foods, directly works with New Zealand producers during the off-season. Contrary to traditional mindsets, the two groups (Welsh and New Zealand producers) do not compete against each another, but rather visit and share insights into innovative production and marketing methods, which help them to further reduce costs and/or increase revenue. Working together benefits everyone, as they effectively and efficiently supply Waitrose consumers with consistently high-quality lamb all year long.

Governance

To build strong working relationships and help the chain engage in informed and meaningful dialogue, LM's Procurement Manager spends time with new producers, discussing all aspects of their processes. This includes the types of farming that they undertake, the systems they have in place, their flocks and their expectations. They also meet them in the plant and the abattoir in order to obtain a greater understanding of the whole system. Special arrangements allow farmers to visit Waitrose stores to learn about how lamb is handled and merchandized at the retail level. The primary processor, Randall Parker Foods (RPF), provides producers with extensive information on individual lamb grades and performance. Less regularly, RPF provides a health status report that allows producers to further improve production efficiencies. The value of this information is illustrated by the fact that the number of lambs hitting the "sweet spot," for which producers receive higher premiums, has continued to increase over the years the scheme has existed. For example, while all UK retailers have similar lamb specifications, the industry average for lambs meeting these specifications is 56 percent. Producers in the LM scheme commonly achieve a hit rate that exceeds 85 percent of supply.

The tri-party system works well because of the level and consistency of the information that is shared. To stay focused on providing a consistent supply of good quality lamb to the end consumer, LM and Dalehead meet with Waitrose ahead of each season to produce a schedule based on historical and expected demand. LM then identifies the number of lambs each producer expects to have available each week and gains a commitment from each producer for that number. Once the season is underway, supply and demand are monitored on a rolling basis, as are producers' actual supplies compared with commitments. Variations between expected demand and available supply are factored into Waitrose's promotional plans. Dalehead also monitors these numbers, maintaining the carcass balance and satisfying both retail and foodservice demand. At the end of the season, the farmers receive extensive reports on their lambs' performance (supply, quality, and financial breakdown) compared with the group average and the leading supplier. This allows farmers to make informed management decisions across their entire enterprise.

Sustainability

Integrity, open communication, loyalty, and strong governance at all levels of the chain have spawned the trust that underpins the success of the LM initiative. The resulting close relationships promote better coordination of the chain, which minimizes the need for costly inventory, reduces waste, and enables better utilization of the entire carcass. Despite having 30 different breeds of lamb across the group, information provided to producers enables them to produce highly consistent lamb. It also allows them to improve efficiencies and increase revenue in ways that are not feasible for producers who are not part of such a scheme. This combination of decreased costs and increased revenue translates into significantly improved profitability for everyone, from producers through to Waitrose, the retailer. Processors save by not having to dispose of any poor-quality product.

Producers also benefit by having greater market security and better financial rewards than they would under a traditional supply model. Perhaps the greatest challenge that this type of system faces is that the opportunity to increase production is limited to the volume which the retailer is able to market. Without an appropriate governance structure, tensions could reach the point that producers or other members of the value chain might decide that their best option is to increase their sales volumes by taking their product elsewhere and/or by looking to develop closer relationships with a competing value chain.

4.6 Perfection Fresh, Australia[7] (Coordinated chain)

Overview

Perfection Fresh (PFA) is a family-run business based in Sydney, Australia. Established in 1978, PFA developed into one of 150 commodity-based operators based in the Sydney wholesale market competing to sell fresh fruits and vegetables to an increasingly small number of large customers. By 1992, from trying to compete on price versus quality and differentiation, they were close to bankruptcy.

Following a significant change in strategy, PFA evolved into a recognized industry leader that supplies innovative, high-quality fresh fruit and vegetables, juices, and packaged fruit snack packs to supermarkets, independent retailers, fast-food chains such as McDonald's, and an expanding number of export markets. As the retail sector consolidated, PFA has continued to succeed by working closely with international breeders and seed companies on ongoing research, developing best practice processes, and developing high-quality branded products. The company offers over 30 branded products and over 40 general fruit and vegetable lines. In 2009, its facilities processed more than 21 million consumer units of produce a year – the equivalent of 1.6 million cartons. A value chain map of PFA's proprietary programs is included in Appendix 2.

Strategic Approach

Michael Simonetta, CEO and chain champion, is a keen observer of international industry trends occurring in sectors other than fresh produce. He observed that significant benefits could be achieved by developing strategic relationships with customers and suppliers. Simonetta believed that economic value could be created by more strategically managing the processes involved in procuring, handling and marketing products throughout the chain. Value would not just come from the product itself; it would come from implementing and maintaining systems designed to better service customers and provide information to suppliers. It was a difficult strategy to follow; but Simonetta believed that adopting such an approach would enable PFA to capture greater value for itself and its business partners.

Through co-innovation, PFA has successfully introduced several new varieties to the Australian market. They include Broccolini®, baby broccoli, baby capsicums, and The Original™ grape tomato. In terms of market share and financial performance, the most successful of their products is The Original™ grape tomato, winner of the coveted 2003 SIAL D'Or prize for the World's Best New Fruit and Vegetable. The Original™ grape tomato (OGT) project succeeded by virtue of a coordinated value chain partnership involving seed companies, producers and retailers. Every aspect of the value chain was overseen by PFA staff: research and development; production; food safety and quality assurance; packing; logistics; finance; administration; sales; export services; customer service; and marketing.

Over a period of five years, a long-term strategic relationship was established that culminated in the involvement of all the participants in a coordinated chain. By replicating the lessons learned from the OGT initiative across its entire operations, PFA has established closer, more effective links with more than 2,000 producers, and significantly reduced costs across its entire business. Partners such as producers, retailers, food service operators, and seed companies have also become more profitable. Many have developed additional value chain alliances with PFA and other members of industry.

7 http://www.perfection.com.au/;
http://www.valuechains.ca/documents/PERFECTION%20FRESH.pdf;
http://www.valuechains.ca/interactivedvd.htm

Governance

Achieving this new approach, where people and behaviour are integral to success, allowed PFA to develop a governance system that is sufficiently rigid to keep the company's entire operations on the same strategic path. The system is sufficiently flexible to motivate the people involved to challenge one another to continually improve as a team. The governance model is based on a carrot-and-stick approach. Owning the proprietary rights for many of the varieties that it markets enables PFA to contract specific producers to grow certain varieties, at certain volumes, at certain times of the year. As well, PFA determines how the products are produced, handled, and processed, and ensures that they can only be marketed through their operations; only products that meet exacting quality standards appear on the market, and that price cannot be undercut by lesser quality items.

PFA balances the supply and demand by working with major retail and foodservice customers to develop 12-month rolling forecasts. It then works with seed companies and producers to develop production schedules that are 20 percent higher than forecasts. This provides a margin of error and spreads the risk of experiencing demand spikes that could not be met, or experiencing supply shortages. Combined, consistent prices, effective grading, and market certainty lessen the likelihood of conflicts occurring at any point along the chain. They also ensure that all participants take an interest in coordinating their operations in relation to the overall market demands and the chain's operations.

Producers are paid on quality, and penalized for poor quality via discounts. If quality is sufficiently poor, their produce is rejected. The possibility of having growers become resentful of their produce being discounted or rejected is addressed by using a uniform and widely communicated grading structure that extends across the entire chain. Daily or weekly written communications are supported through end-of-season reporting, along with verbal communications that are commonly delivered in group settings. This has led to the development of a uniform culture and proactive communication style across the value chain partnership. Greater openness and transparency at all levels of the value chain lead to fewer nasty surprises. This has strengthened relationships horizontally between hundreds of producers, and vertically between participants operating at different levels of the chain. It also enables the creation and sharing of knowledge, which empowers everyone to look for new opportunities to create or capture value, and the ability to continually improve how the system operates.

Sustainability

The PFA example illustrates how a well-managed value chain differs from a commodity approach. In the wider produce industry, loyalty among trading partners is minimal and information is protected rather than shared. Poor communication results in missed opportunities, unnecessary waste, and higher costs. Taking a systems rather than functional approach to managing the value chain has enabled PFA to exact greater influence and control over the overall chain without establishing a bureaucracy which would have stifled performance. Its efforts have strengthened relationships and reduced financial uncertainties, in turn facilitating faster, more effective and commercially significant innovation.

By understanding its customer base and developing products with partners throughout the chain, PFA is able to manage resources more effectively. Its strong governance system discourages any member of the chain from exhibiting the opportunistic behaviour common to commodity markets. Such behaviour results in high transaction costs that limit the opportunities to extract economic value from the market. This change in behaviour is illustrated by producers consciously acknowledging that they need to work together and openly share information in order to enhance the quality of their produce and increase profitability. They no longer compete against each other; they compete against other value chains.

5.0 Comparative Summary

5.1 Five Overarching Requirements

The preceding sections highlight five important requirements related to effective VCM. The first is that value chains must operate at the business level, not the industry or sector level. VCM is therefore a strategic approach that can only be adopted through choice by individual businesses. The decision to enter and the ability to sustain a closely aligned chain will depend on the attitude of the participants. The attitudes of the involved individuals will also determine what they are able to achieve. Attempting to operate a value chain at a sector level would force the chain to accept participants who may be not be motivated or capable. Undoubtedly, this would impair the value chain's performance and competitiveness.

The second requirement is that members of a value chain be motivated and able to adapt, which determines the value chain's competitiveness. Systems have what are termed emergent properties, produced from complementary elements working in harmony. To ensure that the multiple elements that together comprise a value chain operate in harmony, each chain must possess a governance system that determines who belongs to the system and their role within the system. Everyone must be motivated to perform to pre-determined standards through the regular sharing of strategic and operational information. This information is used to develop financial rewards or penalties that directly reflect consumers' perceptions of quality and value. If the performance of an organization or individual continually fails to meet expectations, clearly defined processes exist for expelling them from the system.

The third requirement is that the internal dynamics of the value chain and the external environment in which the chain operates must enhance the chain's ability to acquire knowledge and translate it into actionable and measurable management decisions. The impact that the external environment can have on a chain by influencing its structure, operation, and ultimate competitiveness is shown by the Warburtons example. Differing regulations and laws related to seed registration, along with wheat production and marketing (among other factors), have placed different motivators and enablers on the grain industries of Britain and Canada. This has, in turn, led to different production and marketing arrangements in Canada versus the UK. It has also helped motivate and enable the emergence of an organization such as Openfield, and a chain champion such as Graham Lacey. Compared with the Canadian elements of Warburtons' chain, this series of circumstances has enabled and motivated the UK elements of Warburtons' value chain to innovate more quickly and attain a greater competitive advantage.

The fourth requirement is that partners in a value chain must adhere to a certain set of principles. Success is not determined by how specific value chains operationalize the principles, or the processes used to monitor operations and enforce management decisions. Livestock Marketing and Blade Farming are both successful red meat chains operating in the UK. They have succeeded by carefully monitoring operations designed to reflect strategic goals and objectives. These goals and objectives are based on known consumer perceptions of value. Through this approach, these companies have developed a governance system that rewards producers for supplying animals that meet market requirements, penalizes producers for supplying animals that do not meet market requirements, and permits the entire chain to reduce costs wherever possible. Yet they have developed different approaches to achieving these outcomes. For example, Livestock Marketing provides producers with the target for carcass composition but lets the producers figure out how to make their lambs reflect the desired attributes. The company does not take all animals. Blade Farming gives producers what amounts to a full package of genetics, feed, pharmaceuticals, and expert advice, and then constantly monitors the operations. They take all animals produced within the system, and producers know they will get rewarded according to pre-determined expectations.

The fifth requirement is to avoid evaluating a value chain by focusing on labels. This is a pointless task. It is important to understand how a value chain is managed, the organizations and individuals that comprise the value chain, and the factors which determine the nature of the business relationships that provides the glue which bonds (or fails to bond) the chain together. These factors have the greatest influence upon the chain's competitiveness and the benefits that members can derive from their participation. While it is rare that any chain will neatly fall into just one of the models described in Section 3, the framework presented in Figure 5 and expanded upon in Appendix 1 provides an objective method for assessing a value chain's structure, the factors that determine what it is able to achieve, and opportunities to improve its performance.

5.2 Summative Comparison

Of the six chains described, Little Potato Company, Blade Farming, and Livestock Marketing illustrate the above points by showing how three collaborative chains have implemented a similar set of principles in differing fashion. In all cases, the ultimate purpose is to enable the chain and its members to capture greater opportunities and reduce costs by continually improving operations in line with end-market demands. Little Potato Company achieves this by working closely with a breeder and taking ownership of the proprietary rights of the varieties it decides to commercialize. The chain's structure has, in part, been determined by the partners' willingness to jointly invest in physical assets and operations. Blade Farming purchases calves at 14 days old, contracts calf-rearing to specific producers, and then sells them to finishers at 14 weeks of age with a contract to repurchase the cattle when they've reached specific criteria. A dedicated team of coordinators manages the chain's operations. Livestock Marketing sets the target to which selected producers must achieve in producing lamb, uses social constructs rather than written contracts to enforce accountability, and has just one key customer. All of the chains have clearly defined chain champions who ensure that the businesses that comprise the value chain are tightly aligned in their strategic intent and operational management.

The Warburtons example illustrates the importance that a combination of factors has on a value chain's ability to capture value through co-innovation. These factors include the use of recognized chain champions who possess a shared vision, the involvement in the chain of only committed partners who possess a clear commercial stake in the process, a suitable geographic location, and a regulatory environment that fosters flexible, market-focused innovation. These factors have led to the English element of Warburtons' value chain evolving into a collaborative arrangement, while the Canadian elements reflect characteristics more akin to a coordinated or cooperative chain. These differences directly influence the opportunities and benefits to which the participants can aspire, and the risks to which they are exposed.

The Perfection Fresh example shows that coordinated chains can also co-innovate by strategically aligning operations with like-minded individuals and businesses located along the value chain. The role that the company's governance processes play in balancing self-interest with mutual interest, leading to strong interpersonal relationships and a willingness to learn through the sharing of information, is described by Tim Linnar, a producer based in Queensland: "Because you're not competing against anyone, you help each other more.… By being involved with Perfection (Fresh) and the other farmers, and knowing that the other farmer can't grow anymore than (Perfection) want you to grow, you feel obliged to help each other." Like Livestock Marketing, Perfection Fresh has succeeded by working strategically with other members of the value chain to develop relationships that have let them and their partners learn and adapt. One example is wholly domestic. The other spans the world, with New Zealand and UK lamb producers learning together.

As the above factors and examples demonstrate, the most successful value chains succeed by devising, implementing, and enforcing a structure that reflects their core strategic intent (Collins, 2011; Fearne, 2007; Egelhof, 1988; Chandler, 1968). A value chain does not succeed solely by applying the structure and operations in one of the models mentioned in Section 3. Rather, it succeeds because it is well managed, which will be thanks largely to the skill, business acumen, and vision of the chain's champion; along with the attitudes of those involved. As shown by the Canadian pork example, when a value chain fails to reach its potential, the cause is most typically because the partners did not ensure the chain's structure and management processes reflected their target consumers' perceptions of value. A failed chain may also have neglected to apply the same consistent strategy with all of its value chain partners. As identified by researchers that include Gooch, Felfel and LaPlain (2010) or Stank *et al.*, (2001), this unbalanced treatment prevents the chain from working together to reduce operating costs (as opposed to "low cost"), and can prevent the chain from increasing its revenue growth through continual improvement in product and process (as opposed to partners increasing their own revenue by making their own products distinct in one-off "hits"). As identified by Christopher and Ryals (1999), unbalanced treatment also decreases the chain's ability to efficiently utilize working capital (versus fixed capital efficiency). This report concludes (Section 6.0) by describing, at a high level, differences between value chains and the Federal Value Chain Roundtables. A brief description is also provided of an Australian initiative that performed a similar though expanded role as the Value Chain Roundtables that have been established in Canada.

6.0 Value Chains vs. Roundtables

6.1 Purpose, Potential Impact and Outcome

This section presents a high-level comparison of value chains and value chain roundtables. A value chain is comprised of the businesses involved in developing, producing, processing, delivering, and marketing a product or service to the final consumer for private good (EFFP, 2004; Dunne, 2001). Value Chain Management (VCM) is therefore a strategic-level concept (Bowersox *et al.*, 1999; Cooper *et al.*, 1997; Mentzer, 2001). The emphasis is on taking a multi-firm focus to creating strategic and defensible competitive advantage by maximizing the total value delivered to end customers and innovating to create, then capture value more effectively than competitors. As business occurs at the level of individual enterprises, it is at the enterprise level that value chains operate. The strategies and processes that commercial enterprises employ to attain and defend their competitive advantage will be influenced by the environment in which they operate. This environment will be shaped by factors that include government policy, legislation, and regulations; along with industry culture, attitude, and capabilities. As shown in the descriptions and examples presented in the previous sections, these sector- or industry-level entities will affect the approaches that specific value chains are able and/or motivated to use to attain competitive advantage.

A Value Chain Roundtable (VCRT) is a sector- or industry-level entity, with a focus on providing a public good. It achieves this by giving representatives from businesses operating within the numerous value chains (who together comprise an industry or sector) the chance to voice concerns about challenges that are external to their businesses and limit their competitiveness. These are factors over which, as individuals, they will have little or no control. VCRTs also provide an opportunity for wider industry stakeholders, including representatives from government and industry organizations, to engage businesses in these discussions. Coming together as a forum enables businesses and stakeholders to propose initiatives that can only be implemented at the sector or industry level and that could produce a public good which value chains could not achieve by themselves. The danger is that businesses or other stakeholders can use such forums to push an agenda that could harm the sector or industries' long-term competitiveness.

The communication that occurs within a value chain will be distinctively different from that which occurs within a VCRT context. Value chain communication will be strategic, precise and often confidential. It will also often be driven by the need to find a solution to a commercial problem or developing the ability to capture a commercial opportunity ahead of competitors. They will therefore be oriented towards management of a private good. With VCRTs occurring at a sector or industry level, where the sharing of sensitive information could prove injurious to the involved businesses' commercial interests, the information communicated will usually be generic in nature. The communication will also be issue-driven and focused on producing a public good.

VCRTs have benefitted Canada's agri-food industry by supporting developments at the industry and sector level. These include proposing the formation of the Market Access Secretariat to help industry secure international markets,[8] developing sector level strategies,[9] and commissioning research to permit the development of new value-added markets domestically and internationally.[10] VCRTs also

8 http://www.ats-sea.agr.gc.ca/rt-tr/be-bo-su-re-eng.htm
9 http://www.ats-sea.agr.gc.ca/rt-tr/por-su-re-eng.htm
10 http://www.ats-sea.agr.gc.ca/rt-tr/pl-lg-su-re-eng.htm

played a proactive role in the establishment of the Agri-Subcommittee on Food Safety.[11] The Subcommittee's purpose is to foster collaboration among industry, government departments, and government agencies in the development and implementation of food safety policies and standards. As VCRTs are caught in forum-level rather than value chain-level deliberations, however, few if any of the resulting accomplishments are earth-shattering.

Given that VCRTs were established to provide a strategic link between government and industry, in theory they could play a more proactive role in developing an environment suited to enabling and motivating the adoption of value chain approaches. For instance, VCRTs could guide the process of shaping more effective Canadian agri-food policies and legislation, leading to increased competitiveness. More effective policies are needed, particularly given that commentators have stated that agricultural and agri-food policies and regulations are often out-dated, sometimes before they are even implemented. They can also be detrimental to overall industry competitiveness. Research describing the injurious impact that policies and regulations can have on the performance of agri-food value chains and industry competitiveness include Curry (2002), Harris and Rae (2004), Hart (2005), Kerr (1996), Mason (2008), McDermott *et al.* (2008), Scrimgeour and Sheppard (1998), Tamilia and Charlebois (2007). For example, VCRTs could help address current shortcomings related to policy, legislation, regulations, or programs by commissioning enterprise-level research to identify precisely how the current external environment determines the effectiveness and efficiency of value chains that together comprise an industry, a sector, or a sub-sector.

From this research, more objective comparisons could be made on the impact that the external environment has on determining why one chain is more successful than another chain, or why one sector is more internationally competitive than another sector. Generic research results would be shared with industry through awareness and training efforts, leading to more informed debate in the development and implementation of more effective policies, legislation, and programs from a value chain perspective. It may be that an issue currently blamed on policy or legislation is in fact self-imposed. It may be that it is not the policy or legislation that is at fault; rather the way it is being implemented. It may be that certain policies or programs facilitate the continuation of adversarial relationships between agriculture and downstream elements of the chain. Having factual objective insights would permit discussions that occur at the VCRTs to be firmly based on a clearly identified cause and effect, versus symptoms and assumptions. Having more objective insights would also lessen the likelihood that stakeholders could use the VCRT forums to push an agenda that will harm a sector or industry's long-term competitiveness. Other benefits could include how informed perspectives lead to more meaningful and sophisticated discussions on the determinants of competitiveness, in turn fostering more innovative market-focused mindsets at all levels of industry and government. Approaches such as these are not without precedent, to which the next section attests.

11 http://www.ats-sea.agr.gc.ca/rt-tr/sa-eng.htm

6.2 Australian Consultancy Program

An example of initiatives undertaken in other jurisdictions to strengthen industry's long-term competitiveness is the National Food Industry Strategy (Australia). NFIS was a federally funded, industry-led program designed to provide a blueprint to support the development of a sustainable and profitable Australian food industry.[12] The five-year AUS$114-million initiative took a number of approaches to acquiring an informed perspective on challenges and opportunities facing the Australian agri-food industry. The initiative then utilized the resulting insights to develop a blueprint for how government could more effectively help businesses and value chains (and, in turn, industries and sectors) increase their long-term competitiveness. The program's strategic direction, research priorities, and connection to commercial industry was provided by a National Food Industry Council. Its mandate included developing a whole-of-government approach to food industry issues by integrating the activities of federal and state governments and agencies. The Council comprised ministers from eight separate portfolios and recognized leaders from commercial industry.

12 http://www.ats-sea.agr.gc.ca/rt-tr/sa-eng.htm

The strategic objective of the NFIS reflected four key themes (NFIS, 2004):

1. Innovation – leveraging Australia's science and technology, and education and training by making Australia a recognized centre for innovation in food product, process, and systems development, anticipating and meeting consumer needs, and attracting follow-through investment;
2. Market Development – developing an international food-market entry strategy that encourages Australian exports of food products, helping companies optimize profitability, investment, and employment;
3. Business Environment – building a globally competitive business-operating environment to enhance competitiveness and improved food industry investment; and
4. Environmental Sustainability – ensuring long-term resource availability and responsible management of environment, energy, and waste to support industry growth.

A central tenet of the approach taken to developing a blueprint for growth was the inclusion of a strategic funding initiative designed to increase industry's value chain management capabilities. It sought to achieve this by supporting and enabling demonstration projects, along with training programs delivered to managers of commercial businesses. An example of a value chain demonstration project funded by NFIS included a producer-owned cooperative that processed pineapples and beetroot. Over a three-year period, the cooperative went from losing AUS$20 million to making AUS$30 million per annum. Sharing the results with industry through awareness and training initiatives, the expectation was that this type of effort would strengthen the competitiveness of Australia's food industry, first by increasing the range and depth of management skills, and then encouraging a shift away from the entrenched attitudes and perspectives that typified the agri-food industry. The program also focused on supporting the application of technologies not traditionally associated with the agri-food industry. An example included adapting technology developed in the mineral sector to allow for the production of flour that possesses unique value-added attributes. NFIS ran for five years and led to changes in government and industry programs, policies, and regulations.

7.0 Conclusion

Value chain management (VCM) is more than a theory. It is a strategic business approach that is helping a growing number of businesses increase their long-term competitiveness through means that would be extremely difficult if not impossible for individual businesses within a fragmented value chain. The primary purpose of this paper was to address misconceptions surrounding the topic of value chains and VCM by providing an informed objective perspective on why value chains operate at the business level and not at the sector or sub-sector level, and the factors required for effective VCM. A secondary purpose was to provide a basis for more informed and sophisticated discussions to occur on developing initiatives that could lead to a more competitive and profitable Canadian agri-food industry.

As value chains operate at the business level, the paper also illustrated that a clear delineation exists between value chains (and their management) and Value Chain Roundtables (VCRT). As the performance of value chains can be positively and negatively affected by the external environment in which they operate, VCRTs can play a meaningful role in fostering communication and innovation at the industry or sector level by encouraging the development of an external environment that supports the development of competitive innovative value chains. This can only occur if industry and government proactively work together to make strategic changes to policy, legislation, and regulations. Australia's National Food Industry Strategy was cited as an example of how a federal government outside of Canada approached the process of facilitating strategic changes at the industry and business level through research that resulted in more informed discussions.

Competitiveness and profitability, along with trust and commitment, result from the attitudes and motivations possessed by the participants in a value chain. Conceptually, VCM is not a difficult topic to grasp. It can, however, be a difficult road to follow, particularly for an industry in which adversarial relationships are common. With this in mind, efforts focused on encouraging the adoption of VCM practices must acknowledge the role that education and training play in changing the minds of managers from commercial industry, as well as those of government employees, industry organizations, and politicians.

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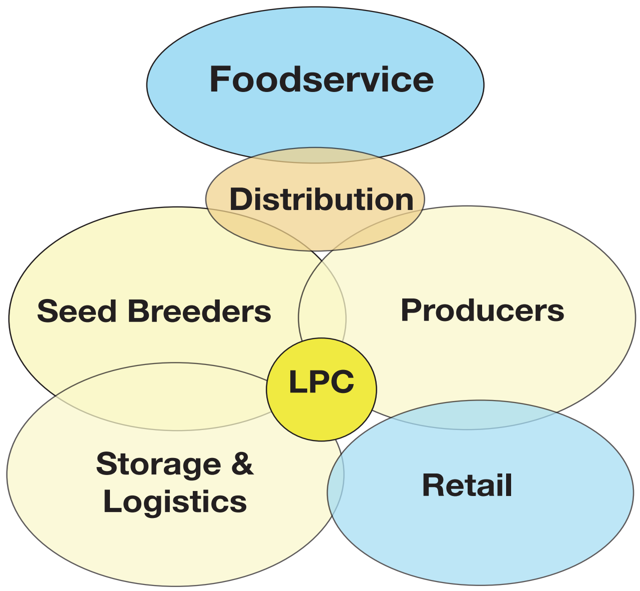
Appendix 1: Value Chain Models

Characteristics	Chain Structure Fragmented	Cooperative	Coordinated	Collaborative
Strategic Factors				
Each members' strategic orientation	Self interest	Self interest, mutual benefit	Mixed interest, self benefit	Mutual interest, mutual benefit
Primary focus of chain's strategic intent	Poorly defined short term, sector level opportunities	Reasonably defined medium- term, business opportunities	Well defined medium to long- term, business opportunities	Well defined long- term, business opportunities
Extent to which value chains' and businesses' strategies are aligned	Not unless accidental	To a limited degree	Closely, regularly evaluated in relation to specific goals	Extensive, regularly monitored in relation to specific goals
Incidence of shared vision	Almost non existent	Limited to operational side of business	Yes: more on operational side than strategy	Yes: focused equally on strategy and operations
Economic relationship to the wider industry	Business occurs in an environment shaped largely by external forces	External forces have greatest impact on shaping business environment	Business environment shaped equally by internal / external forces	Chain forms economic environment in which business occurs
Most important benefit	Traditional business model, no new skills required	Provides opportunity to learn/adapt with little risk	Enables cost reductions and revenue gain	Enables co-innovation, unique strengths
Most limiting factor	Limited ability to sustain competitive advantage	Limited benefit compared to coordinated / collaborative	Relies on involving only like-minded partners	High risk to those without sufficient VCM experience
Greatest strength	Market savvy	Able to seek opportunities	Able to act on opportunities	Able to innovate / act quickly
Greatest weakness	Slow to innovate, defensive	Innovation occurs in silos	Somewhat limited ability to innovate	Reliant on a few customers
Governance Arrangements				
Commercial relationships	Antagonistic	Restrained	Limited accountability	Mutually accountability
Defined members each with clear roles and responsibilities	Unsolicited members with often ambiguous roles	Solicited members with reasonably defined role	Clearly defined, performance info usually shared with others	Clearly defined, performance info always shared with others
Existence of a chain champion	No	Perhaps, most often not	Usually clearly defined	Defined and articulated
Primary approach to governance with/over third parties	Dominate others	Inclusion when appropriate, dominate when necessary	Inclusion of preferred others; negotiate, enforce	Inclusion of committed partners; negotiate, enforce
Relationship between most and least powerful members	Dominance, often with injurious effect on others	Restrained domination	Positively use power to influence and empower	Positively use power to influence and empower
Presence of trust and commitment	Little existence of either	Limited existence of either	Considerable existence of both	Extensive existence of both
Management control systems	Centralized decision making, centralized problem solving	Decentred decision making, centralized problem solving	Irregular cooperative strategic decision making, some local problem solving	Mix of regular centralized and collaborative strategic decision making, localized problem solving

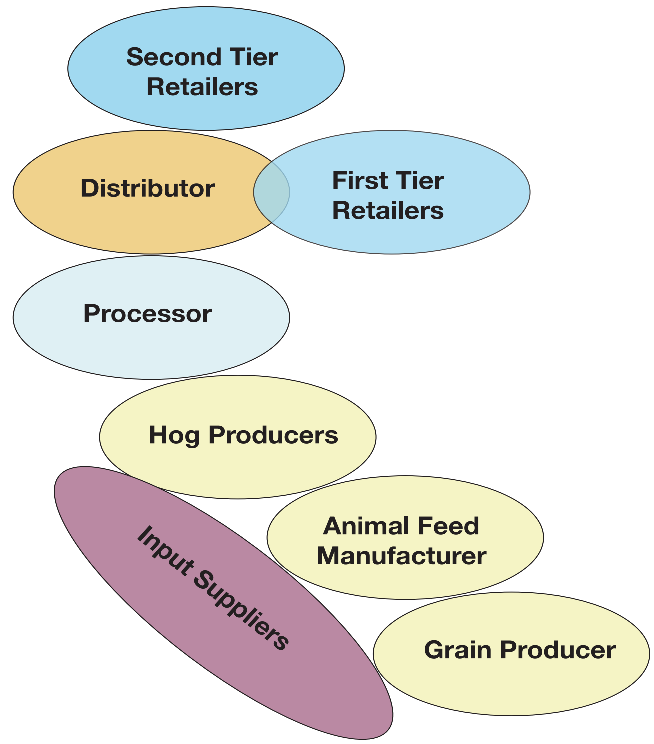
Basis of contractual arrangements, and the source of greatest strength	Wide use of legally binding written agreements	Wide use of legally binding written agreements	Legally binding written contracts, aided by social contracts	Social contracts form primary basis of relationship
Mechanisms to prevent freeloading	Little to none	Limited	Usually significant	Always extensive
Likely influence of regulations or legislation to perpetuating structure	Reasonably common	Reasonably common	In specific circumstances	Rarely
Financial				
Ownership structure	Within physical boundary of individual business	Within physical boundary of individual business	May have joint ownership, usually in delivering services	Often jointly own service provider and/or infrastructure
Financial focus, basis of negotiation	Maximize own profitability	Enhance own profits	Increase own profits first	Protect/increase profits
Basis of incentive structures	Focused on the individual	Focused on the individual	Largely focused on the individual, may reflect elements of group based incentive structures	Consciously reflect consumer value contributed by group, with individual accountability
Primary method of mitigating risk	Short-term focus, seek to pass risk onto third parties	Limit catastrophic risk through using preferred suppliers	Medium-term focus, try to ensure correct accountability	Long-term focus; regularly monitor, ensure accountability
Communication				
Regularity of communication	Individual transaction	Over multiple transactions	Primarily regular reporting	Regular reporting
Nature of communication	Short-term; often untimely and inaccurate, limited details	Short to medium-term; often untimely, limited details	Short to medium- term; usually timely, accurate, detailed	Short, medium and long-term; timely, accurate, detailed
Key attitudinal characteristic	Primary focus is towards own operations and personal gain	Work closely with others	Each member views itself as part of interrelated system	Each member views itself as part of aligned interlinked system
Approach to interacting with others when problem solving	Assign blame, largely managing symptoms	Seek solutions with limited vigour, limited ability to apply	Seek solutions with some vigour, limited ability to apply	Vigorously find true cause, solve, learn, adapt, monitor
Key factor sustaining chain	Ability to trade	Able to use others' skills to enhance own trading ability	Ability to learn and influence others through emotional intelligence	Ability to learn as a system, then act on new knowledge
Ability to proactively innovate in relation to consumer demands	Limited. Innovation often driven or enabled by external factors	Limited. Most innovation relies on external sources	Reasonable. Most likely to adapt others' innovation to reduce costs, increase margin	Extensive. Create value through adapting own and others' innovation in numerous ways
Operations				
Primary focus of chain's operations	Immediate customer	Customer's customers (to a degree)	Customers and consumers	Target consumers
Number of customers and suppliers	Many customers, moderate importance; many suppliers	Many customers, range in importance; many suppliers	Fewer customers, range in importance; fewer suppliers	A few important customers; often few suppliers
Flexibility: ability to proactively adapt to market fluctuations	Cumbersome. Level of agility dictated by others	Reasonably cumbersome, adaptive capabilities	Reasonably extensive, often enabled by distinct skill sets	Extensive, often enabled by unique skill sets
Level of technological integration	Basic, transactional	Usually basic, transactional	Moderate	Moderate to extensive
Performance measures	Mainly subjective	Limited objectivity	Subjective and objective	Objective, consumer-driven

Appendix 2: Value Chain Maps

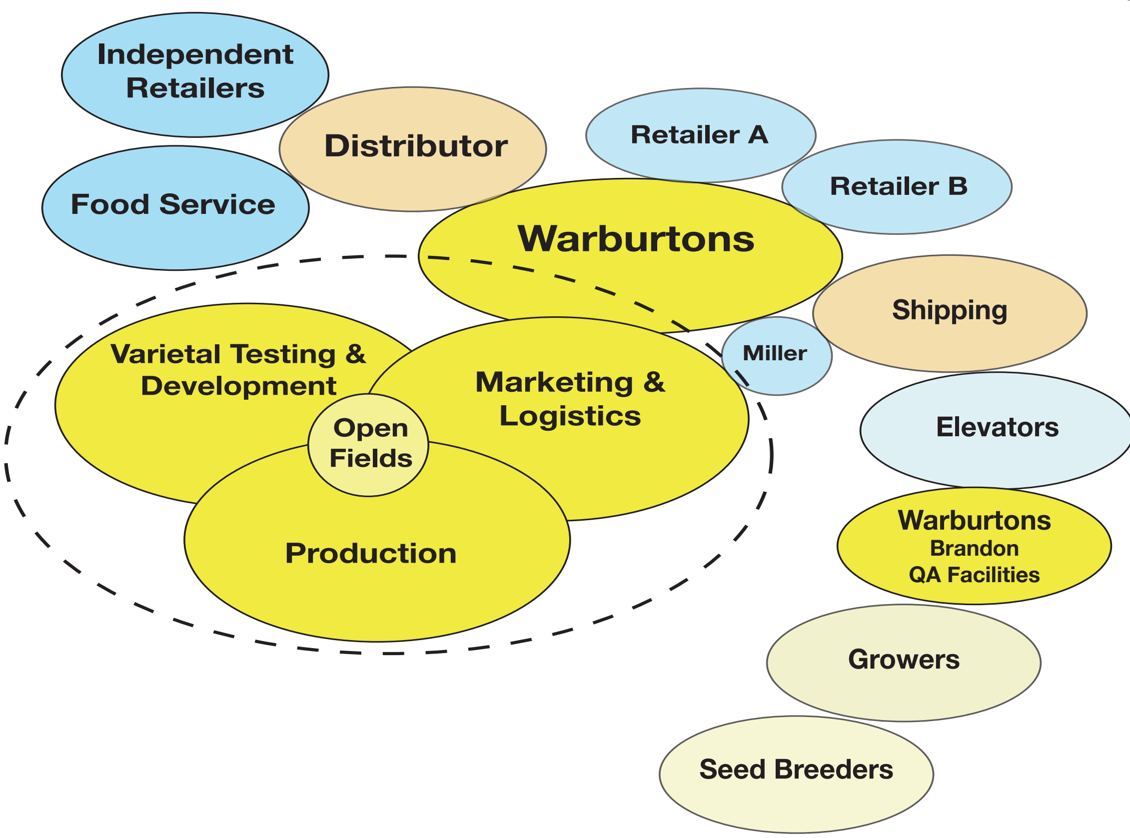
a) Little Potato Company



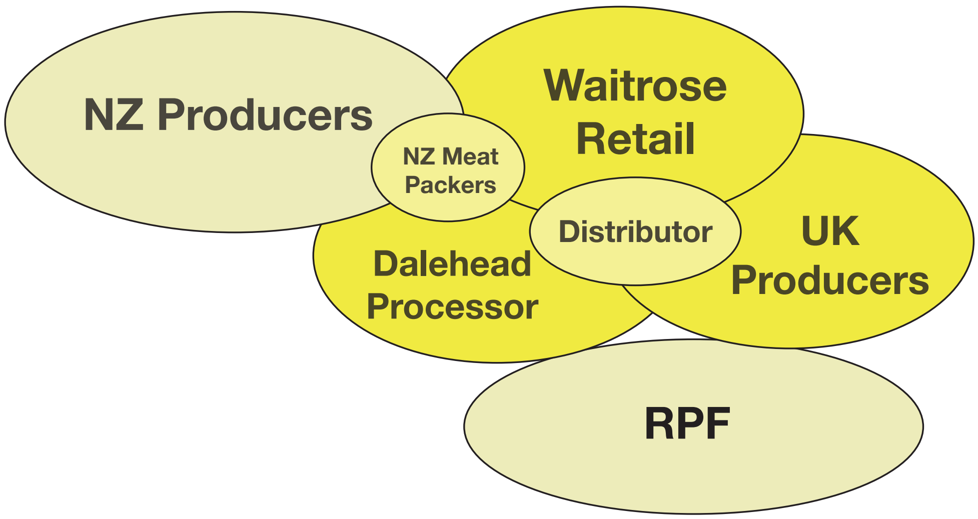
b) Atlantic Pork



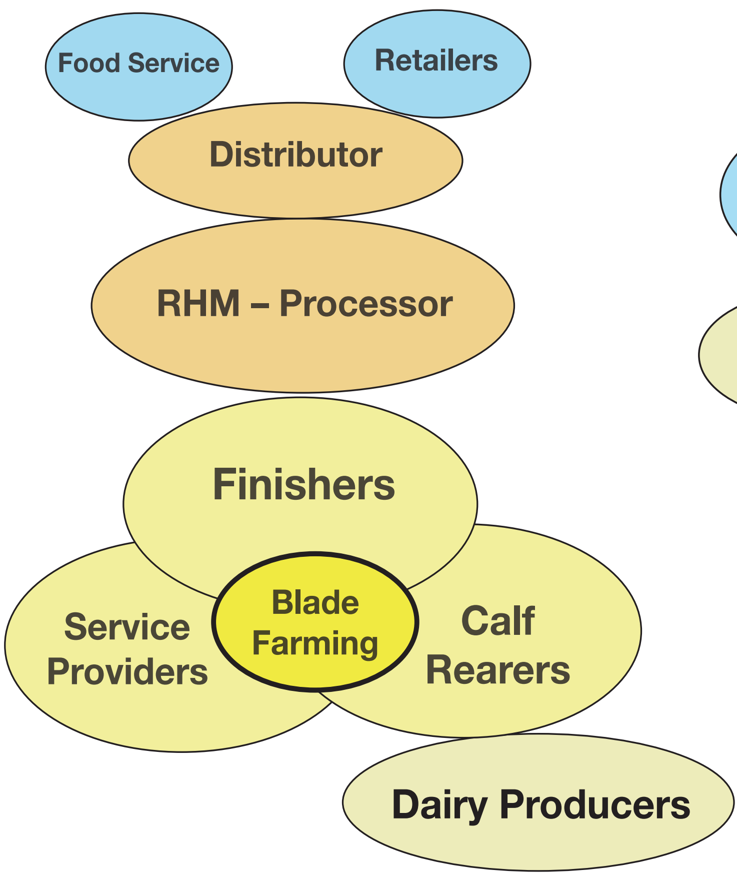
c) Warburtons



d) Livestock Marketing



e) Blade Farming



f) Perfection Fresh