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**SHIFTING THE PARADIGM:
AGRICULTURAL MARKETING
IN A
PRODUCT CONSCIOUS AGE**

A Case from the Wool Industry

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This manuscript is submitted for the award of a Master of Philosophy in Economics at the
University of Sydney

STATEMENT OF ORIGINALITY

I certify that this thesis has not already been submitted for any degree and is not being submitted as part of candidature for any other degree.

I also certify that the thesis has been written by me and that any help that I have received in preparing this thesis, and all sources used, have been acknowledged in this thesis.

Signature of Candidate

.....

David Gregory
11 January, 2008

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Foreword

This research was funded under a competitive research scholarship, the John and Betty Casey Research Trust Scholarship, established under a bequest from the estates of John and Betty Casey. The object of the Scholarship is to research the better development of the Pastoral Industry and the development of its products with particular emphasis on the improvement of sheep, wool and cattle. Priority is given to research that is of direct benefit to the pastoral industries of the Monaro.

The proposal submitted to the Selection Committee was *to identify the critical success factors that have enabled beef, wool and sheepmeat producers to share in the financial benefits of improved cooperation and collaboration with chain partners, both horizontally and vertically, using available case studies.*

My contention is that such value chain cooperation and collaboration is rapidly going beyond an opportunity and is becoming a necessity for Australian farms, not merely to ensure competitiveness and profitability, but indeed to ensure viability into the future.

The potential impact of climate change and the relevance of traditional institutional arrangements for Australian agriculture are central media issues as this research is being finalised. Dried vine fruit producers in the Murray Valley face current water allocations below 25 per cent of requirements. The nation's official commodity analyst, Australian Bureau of Agricultural and Resource Economics (ABARE), estimates substantial declines in the production and export shares of key Australian commodities with Australia likely to be one of the countries worst affected by climate change (ABARE, 2007). The current edition of the *Australian Farm Journal* features articles from leaders in agribusiness critical of the resistance of farm lobby groups and the traditional commodity institutions to more innovative modern marketing practices (*Australian Farm Journal*, December 2007). In this environment a relevant business and marketing framework is required that supports the ongoing viability and sustainability of Australia's food and fibre industries. My research supports that objective.

Foreword

Accordingly, the approach is to capitalise on my personal working experience with many food and fibre projects that adopted innovative business and marketing approaches. This research reviews the research literature to identify critical factors underpinning successful chain or relationship development of networks, chains, strategic alliances and marketing relationships. It also aims to validate an assessment tool for use by managers undertaking or evaluating chain development. A specific case, an emerging value chain from the wool industry, is used to test this assessment tool.

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SYNOPSIS

The cost base of Australian agriculture is placing increasing competitive pressure on the traditional broad acre commodity industries (wool, meat and grains). Effective resource management is one side of the production equation. Improving returns from scarce resources through innovative marketing is another. Value chain management is an increasing focus by innovative food and fibre businesses, but the wool industry has been slow to adopt alternatives to the traditional auction system. There have been many examples of woolgrowers seeking marketing alternatives but few have been sustained. The New Zealand Merino Company provides an example of innovation in marketing but Australian woolgrowers prefer existing arrangements over something they do not understand. What then are the critical considerations underpinning the development of a value chain approach? And how can value chain development and performance be monitored and improved?

This research employs a case from the wool industry, the WoolConnect chain, to evaluate critical success factors identified from related literature, including theories on customer value, supply chain management, strategic alliances, relationship marketing, resources, social capital and capability development. A conceptual model based on the literature and field experience is employed to develop a check list and questionnaire, and to explore critical issues in value chain development for WoolConnect and from the experiences of other value chain initiatives. Perhaps marshalling the core capabilities of food and fibre businesses across the chain to deliver products offering superior consumer value may provide an alternative to the erosion of value through traditional commodity marketing.

Chapter 1

Introduction

Businesses world-wide face a period of ‘extreme’ competition because of the parallel impacts of globalisation (ready access to labour and resources), technological change (largely through more efficient communication systems) and market liberalisation (with increasingly discerning consumers) (Huyett & Viguerie, 2005; Hendrikse & Bijman, 2002). The agricultural industries are experiencing the brunt of these changes. Accordingly, the very survival of producers in many traditional rural commodity industries requires a more effective response to the needs of contemporary consumers, including by collaborating with chain partners and sharing in the value generated through the chain beyond the farm gate (Gow et al, 2002).

1.1 Rationale for a Value Chain Approach to Marketing

Traditional commodities have been the mainstay of Australian agriculture, where the emphasis has been on efficiency, high volume, consistent quality and economies of scale (Grunert et al, 2005; White, 2000). The expanding demand for high value products, however, offers many new opportunities for Australian agriculture to operate within a new business model. This model requires innovative production and marketing with a greater level of customer focus, increased flexibility and responsiveness to consumer demands (Heilbron & Larkin, 2006).

Grunert et al (2005, p429) tell us that international primary produce market competition is moving towards value added, differentiated products where

“...it becomes more important that production-related competencies become supplemented by market-related competencies, since products will be tailored more specifically to certain markets or customer segments, and the risks increase of developing products which do not gain market acceptance.”

This change provides an opportunity for businesses to work together to improve performance, to modify their business systems in production and marketing and take on more of a product marketing focus, rather than a traditional commodity marketing focus (Gow et al, 2002). It also involves a paradigm shift (Gummesson, 2000; Lambert & Cooper, 2000) in attitudes to marketing and the nature of relationships with chain partners. It requires, in effect, a change in culture and learning for chain participants (Walter et al, 2007).

Improving whole-of-chain performance can offer other benefits including more efficient resource management through better understanding of ‘who adds what value at what cost’, and hence a reduction in waste, and by providing a more effective management response to seasonal conditions including drought and the emerging impact of climate change (Gunasekera et al, 2007).

“The pressure to do more with less inexorably forces companies to focus on few, unique, hard to imitate and distinctive core competencies, while establishing co-operations [*sic*] in fields in which they do not possess distinctive competencies.”
(Omta et al, 2001 p1)

Value chain management in rural sector marketing is not well understood and the available research material tends to be limited in business coverage. Business practice across the Australian agribusiness sector, including in the pastoral industries, provides many examples of cooperation and collaboration among chain partners, including examples where this collaboration often traverses several links in the chain between the producer and the final consumer (Department of Primary Industries & Energy, 1997). The pastoral industries, including beef, dairy, sheep meat and wool, typically involve one or more product transformations from the farm to the ultimate consumer. For example, the wool production, processing and marketing chain is particularly complex and can involve some 14 changes of ownership and 22 months from farm to retail shelf. This study provides a conceptual model and an analytical tool to guide those seeking to build cooperation and collaboration across such multidimensional food or fibre chains.

The research community needs to provide guidance in building theory and developing normative tools and methods to assist businesses or chain managers to capture the potential for successful value chain management (Lambert & Cooper, 2000; Grunert et al, 2005). Chain cooperation is a universal trend in the food industry. It is partly efficiency driven but is also a response to differentiated consumer demands. This response requires diffusion of market intelligence across the chain and coordinated action by chain partners.

“Consumer demands concerning animal welfare, food safety, environmental considerations and use of genetically modified organisms (GMOs) are all examples where evolving and heterogeneous consumer demands create needs for end-user focussed market orientation to extend across the whole value chain.”
(Grunert et al, 2005 p429-430)

Current analyses of vertical relationships in food and fibre production and marketing, the Agrifood sector, are generally limited to those between two immediate chain partners, or dyads, usually in the fresh horticulture sub-sector where there is limited product transformation from the farm gate to the retail shelf. Relationships in fresh produce retailing have been found in some circumstances to have considerable longevity. For example, in one study (White, 2000) of 14 relationships between fresh produce suppliers and the UK retail multiples (supermarkets) over the ten years to 2000, the life expectancy of these relationships averaged eight years, with many relationships extending to ten years and one example, involving Marks and Spencer, continuing productively after 30 years. There has been considerable analysis of horizontal networks, particularly at the grower or producer level, but negligible analysis of the nexus between horizontal and vertical networks.

This research focuses on a traditional pastoral industry and specifically at an emerging wool value chain. The study seeks to identify the critical factors for successful chain performance in the pastoral sector using a case study research methodology.

Chapter 1

The chain in focus consists of an entity, WoolConnect Ltd, a formal horizontal alliance of 66 woolgrowers, and the less formal relationship involving the vertical chain partners. The initiative reflects some woolgrowers' determination to find an alternative to the inefficiencies in the wool marketing and processing supply chain, and to explore new growth opportunities, new ways of doing business that deliver improved returns, principally by building alliances with key chain partners from farm gate to retail shelf. The value chain focus involves cooperation and collaboration between chain partners, the possibility of richer and closer relationships among woolgrowers and, collectively, with processors, manufacturers and the retail sector where the focus is on innovation and growth. At the time of writing, WoolConnect has operated for some 6 years, and its experience provides a valuable case for value chain analysis.

It is important to understand the strategic imperatives, the drivers of revenue, costs and value in each industry (Porter, 1990). In the wool industry the long and fragmented chain from woolgrower to the retail shelf is a dominant industry characteristic. There is no clear value chain 'captain' in the Australian wool industry and there is frustration with the current industry structure at many levels of the chain. A view appearing with increasing frequency in the media is that many of the 32,000 woolgrowing families in Australia "...are at a breaking point" (Nicholas, 2006; Thistleton, 2007), partly due to historically low prices and declining sales, and the impact of continuing procession of adverse seasonal conditions. Woolgrowers have undertaken technical and farm management improvements over a long period to address costs. Innovative business and marketing approaches offer scope for improved returns.

Chapter 2 reviews the process of change occurring in the Australian wool industry, particularly over the last 20 years, to identify the basis for an alternative approach to wool marketing. These changes are not dissimilar to the forces of change in other sectors of Australian agriculture, particularly in the pastoral industries, as outlined below.

To be clear, a **commodity** is something that is relatively easily traded, can be physically delivered, and can be stored for a reasonable period of time. It is a characteristic of commodities that prices are determined on the basis of an active market, rather than by

the supplier (or other seller) on a ‘cost-plus’ basis. In the original and simplified sense, *commodities* were things of value, of uniform quality, and produced in large quantities by many different producers; the items from each different producer are considered equivalent. It is the contract and this underlying standard that define the *commodity*, not any quality inherent in the *product* (White, 2000; Champion & Fearne, 2000). A **product** is anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or a need. It includes physical objects, services, persons, places, organisations and ideas (Kotler et al., 1989). The heterogeneity of consumer wants and needs is the important issue here because it provides the basis for producers of wool or other products to differentiate their offer, often with intangible benefits, and reduce the price influence in the purchase decision. Such a focus provides the opportunity for branding and the capture of monopoly profits

“...in contrast to a commodity trader, who effectively sells ‘blind’ onto a market and is simply a price taker.” (Champion & Fearne, 2000 p2)

1.2 A New Business Model for Australian Agriculture

This study explores a new business model for the Australian food and fibre sector. It applies modern business and marketing practices where the primary focus is on the final consumer (in reality the only person who puts a ‘dollar’ in the chain; the others merely taking a share of that dollar). A chain-based approach is proposed to address the wants and needs of the final consumer in the most efficient and effective manner. This approach involves cooperation and collaboration among chain partners, both horizontally and vertically. The argument is based on related material from the research literature and information from businesses that have adopted chain-based strategies.

A paradigm shift (Porter, 1990; Lambert & Cooper, 2000) to a chain approach in the Australian pastoral industries requires both structural change and learning for the businesses involved. These changes include a focus on the final consumer rather than the next customer in the chain, on value rather than price, on demand rather than supply, on

the chain rather than the industry, and on building long term relationships rather than individual transactions. A chain-based business model involves many elements, but some of the more significant identified in the research literature are: identifying and creating consumer value (Grunert et al, 2005; Lee, 2001; Ravald & Gronroos, 1996); building and sustaining cooperation and collaboration among businesses in the chain (Spekman & Carraway, 2006; Lindgreen et al, 2006); and chain development and management. (Lambert & Cooper, 2000)

1.3 Historical Perspective on Marketing in the Pastoral Industries

The outputs of the sheep (wool and meat), beef, grain and dairy industries, which form the basis of traditional broad acre farming in Australia, historically have been marketed broadly under industry-based commodity marketing arrangements. These marketing arrangements are complex and vary from industry to industry under the influence of political considerations at the industry, state and national levels (Watson and Lloyd, 1986), largely to achieve price stabilisation and orderly marketing objectives (Lewis, 1967). The marketing of pastoral industry products (beef, sheep meat and wool) has traditionally centred on the auction as a method of sale. The early justification for the auction as the preferred method of sale for wool emphasised its transparency and its usefulness as an indicator of supply and demand conditions:

“The auction system is an effective and equitable method of distributing the clip among users, in that access to the market is open to all, and it is free of the taint of manipulation in the interests of growers or users of wool. It provides a sensitive barometer to supply and demand conditions, not only for wool as a whole, but also for the many different types of wool.” (Parish, 1967 p284)

However in an auction there is no relationship between buyer and seller, and the price which clears the available supply reflects competition among buyers on the day, influenced by the demands of processors supplying to domestic and international

markets. The auction process is not without its critics, mainly from aggrieved producers and their organisations during wide market price fluctuations. Examples of such fluctuations include the decline in farm incomes after 1969, following acute problems in the wool and wheat industries; following the beef slump in 1974, and again after the serious fall in lamb prices after 1983. Farmers and their organisations have tended to criticise agents and other market intermediaries and to seek statutory marketing solutions.

“This predictable producer reaction has been directed at the traditional targets in the shape of the profits and activities of intermediaries, the wide price fluctuations in the saleyards, the lack of correspondence between the movement of wholesale purchase prices and retail prices, and what appears to be an immense gap between the retail return and the farm return per beast. The predictable solution proposed for these ...grievances is grower controlled price-setting marketing boards established by government legislation.” (Watson & Lloyd, 1986 p380)

Deregulation by successive governments over the past 20 years have eroded the plethora of price setting or stabilisation arrangements, both state and federal, in many areas of Australian agriculture, including the wool and dairy sectors. This deregulation has seen producers increasingly taking individual initiatives to manage risk with various financial instruments now more readily available to those who wish to use them. Such price risk management initiatives are more a feature of commodity marketing where price expectations primarily guide production decisions.

However, despite this deregulation, the pervasive influence of industry based marketing and research organisations continues through the impact of statutory backing for levy arrangements on the marketing of rural commodities. These arrangements deliver enormous budgets, typically \$100 million annually, to those organisations (Meat and Livestock Australia, Australian Wool Innovation, Horticulture Australia Ltd, Dairy Australia and others) which underpin the thrust of traditional commodity marketing arrangements. These organisations are often targets for the types of criticisms (for example, the resistance to change because of ‘vested interest or historic agendas’) identified in the Forward to this manuscript (Francis, 2007).

1.4 Current Marketing Influences

A large proportion of agricultural production is exported, so overseas demand and supply conditions directly affect Australian farm prices. The amounts and quality of farm products supplied fluctuates considerably with seasonal conditions, with an inevitable impact on prices received. Exchange rate movements also affect prices.

“This variability and uncertainty of prices, quantities and quality of product which farmers experience is reflected throughout the marketing chain. Input suppliers face a similar variability in the demand for their products, and processors face similar variability in the quality, quantity and prices of the throughputs of their businesses. Furthermore selling processed products to other countries is difficult; cultural and location specific phenomena combine to make it so.” (Malcolm et al, 1996 p271)

The variation in agricultural production volumes and quality because of seasonal and other factors tends to see producers gearing their production systems to what has seemed to work previously. Thus they attempt to provide product to defined specifications that have seemed to give the best auction return for their production circumstances. The issue of specification raises issues which have vexed industry-based statutory marketing in Australian agriculture, issues such as grading and objective measurement of both livestock and their products. Quality issues incorporating product traceability to the source of production are increasingly emphasised in the interests of food safety.

“In dairy, meat and wool processing there is now much emphasis placed on meeting quality criteria as set by international quality standards. As well farmers are being exhorted continually to attempt to produce a product which better meets the quality standards of the market, and just as frequently farmers are agitating for pricing systems which indicate clearly to them the ‘quality reasons’ for the product receiving the price it does.” (Malcolm et al, 1996 p307)

Chapter 1

The traditional commodity marketing culture dominating the pastoral industries demonstrates a particular mindset which is reflected in the associated business culture and practices in these industries. Auction price signals influence producer consideration of any alternative marketing approach, such as direct selling to processors or retailers, including responding to specific customer 'quality' requirements.

The Australian Government recently initiated an inquiry by the Australian Competition and Consumer Commission (ACCC, 2007) in response to producer concerns that retail prices for red meat (beef and lamb) did not reflect low livestock prices on the spot (auction) market due to drought conditions at the end of 2006. Currently, exports constitute some 65 per cent of Australia's \$7.4 billion beef production, and 45 per cent of lamb and 76 per cent of mutton of the \$2.1 billion sheep meat production. Domestically, in 2005-2006, the two major supermarkets retailed some 12 per cent of Australia's beef production and 25 per cent of lamb production (ACCC, 2007; ABARE, 2006).

The ACCC noted ABARE's contention that Australian sale yard prices are largely driven by international influences. However modern supermarket developments internationally, which are also reflected in Australia's two major supermarkets, demonstrate the increasing importance of more sophisticated supply chain management practices in beef and lamb marketing, including direct and regular supply from known sources of production to achieve increasingly demanding quality outcomes (ACCC, 2007).

As a result of evidence to the ACCC by both major supermarkets, the ACCC reported that the major supermarkets

“...have vertically integrated supply and service agreements throughout the supply chain with farmers, feedlots and meat processors ...that these arrangements involve setting prices based on the prevailing costs of production including a profit margin ...that prices are negotiated with producers in advance and set for various periods ...and that subsequent changes in market prices (either up or down) do not alter the agreed price. For example, Woolworths stated that it

negotiates a guaranteed minimum lamb price with producers three months in advance. If the lamb price falls below an agreed market price, Woolworths pays the negotiated price but if the market price rises it shares the gain with the producer.” (ACCC, 2007 p9)

The ACCC felt these types of agreements provide a degree of certainty to both producers and supermarkets. The use of a guaranteed minimum, rather than a maximum price, suggests the negotiating power between buyer and seller is not unduly skewed in favour of the buyer. Moreover, the use of contracts to determine input prices in advance suggests there is unlikely to be a direct and immediate relationship between the contracted price and prices in the spot markets (eg saleyard prices) (ACCC, 2007).

“Coles claimed that no supplier has left its supply chain since it was developed in 1998; while Woolworths claimed that none of their suppliers have complained about the prices received from Woolworths. This argument was supported by ALFA (the Australian Lot Feeders Association) who surveyed a select number of feedlots to understand their supply arrangements with Coles and Woolworths.” (ACCC, 2007 p9)

ALFA reported that feedlots repeatedly affirmed that the Australian cattle and beef markets are so highly competitive and complex that the potential for any single business within the market to dictate prices is considered negligible (ACCC, 2007). Nonetheless, some growers privately have concerns that supermarkets profit on the low prices generated by the forced liquidation of stock during the drought period.

Some specifications for beef and sheep meat production continue to demonstrate a high level of commoditisation. An example is the export of the boxed 85 or 90 CL (chemical lean) beef specifications for the USA hamburger trade, largely sourced from mature age cull cows from beef and dairy production. For this particular specification, sale yard prices reflect expected meat yields from the stock on offer, and the movements in USA daily prices in \$US, reflecting movements in relative exchange rates.

Chapter 1

In the case of wool the auction market plays a more dominant role. Some 80 per cent of Australian wool production (509kt in 2005-2006) is sold through the auction system, with most production destined for export markets (498kt in 2005-2006, valued at \$2.624 billion; with a further 158kt in privately held unsold stocks) (ABARE, 2007). The mindset of the auction and its processes are pervasive in the wool sector. Partly for this reason the focus of this study as it attempts to adopt an alternative value chain business model. The experience of WoolConnect is the case study at the heart of this research, although references are made to other supply chains. Next, Chapter 2 will examine the particular circumstances of the wool industry, its background, structural changes and situation to provide the context for specific case research in this study.

Chapter 2

Case Study

The Wool Industry: Setting the Scene

2.1 Introduction

The Australian wool industry is a traditional food and fibre commodity industry in which the focus of competition has revolved around the industry rather than the firm. An industry-based marketing system, largely built around an auction process and a complex administrative infrastructure for funding industry-based research and promotion, leaves individual businesses highly susceptible to fluctuations in international demand and supply that are beyond any firm's control (Sturgess & Malcolm, 1986; Watson & Lloyd, 1986). This thesis uses a case study from the wool sector to explore an alternative business model to traditional commodity marketing. That model fills a gap with a framework of priorities for those seeking to build a chain that responds directly to customer needs through a process of cooperation and collaboration through the chain.

This chapter reviews the recent performance of the Australian wool industry with particular reference to the period since the collapse of the wool reserve price scheme in the early 1990s. It presents an overview of various solutions that have been proposed to improve industry performance and describes some examples of specific responses by sections of the industry, including grower groups.

2.2 Current State of the Australian Sheep Industry

That the modern Australian economy was built on the sheep's back is deeply embedded in the Australian psyche. Wool and gold exports were the major contributors to paying for the imports required to build the cities in the 19th and early 20th centuries (Butlin, 1964). The establishment of the sheep industry from the mid-1820s, initially using

imports of the Spanish merino breed from South Africa, and subsequently Saxon Merinos from Germany and English Merinos, was driven by the desire to meet the requirements of European textile mills (Shaw, 1967).

Since those colonial times the production of wool has driven the expansion of the Australian sheep industry. Wool has traditionally dominated rural output and rural commodity exports with significant multiplier effects through the Australian economy. In the 1960s wool and sheepskins accounted for some 40 per cent of agricultural exports, but this fell to 10 per cent by 2003-2004 (Productivity Commission, 2005). Live sheep and mutton have been useful by-products of wool production with lamb traditionally produced by specialist producers largely for the domestic market.

In 2005-2006 wool and sheepmeat (and live sheep) produced exports of some \$4.03 billion, compared to beef and veal (and live cattle) exports of \$4.63 billion, and grain and oilseed exports of \$5.30 billion in total farm exports of \$27.73 billion (ABARE, 2007). In 2005-2006 the rural share of total goods and services exports had contracted to 16 per cent, compared with mineral resource exports of 41 per cent, other merchandise exports of 17 per cent and services exports of 26 per cent (ABARE, 2007). These figures indicate the strength of the minerals boom on the one hand and the impact of adverse seasons and market conditions on the rural sector on the other.

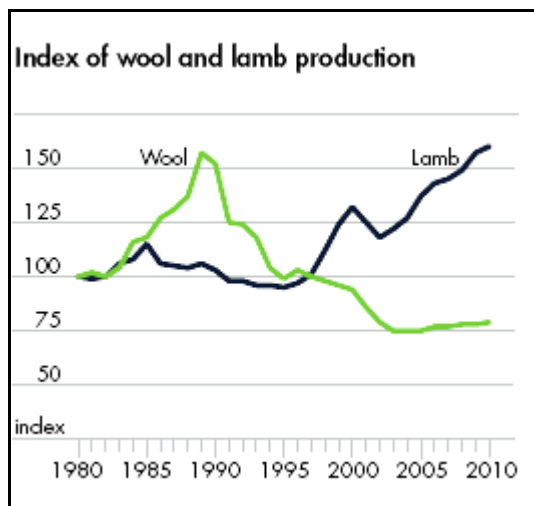
ABARE (2006) recorded that in 2004-05 wool production had declined by 50 per cent in the short period since the early 1990s and the sheep flock by some 40 per cent, and the share of wool in the total value of wool and sheepmeat production had fallen from 90 per cent to 60 per cent in the same period. In today's economy, wool output and exports have a far more muted impact within the overall sheep industry as well as within the rural and national economies. Why is this so?

Since the early 1990s two major trends have hurt the financial performance of wool. First, the competitiveness of wool as a fibre has continued to decline against synthetic and other natural fibres such as cotton and is discussed in the next section. Second, the

sustained growth in export demand for Australian lamb has led to an expansion of the Australian lamb industry. Along with lamb, mutton has been buoyant with a decline in competing meats because of BSE or ‘mad cow disease’ for beef and avian influenza for poultry (Kuznesof & Brennan, 2004; Saxena, 2006).

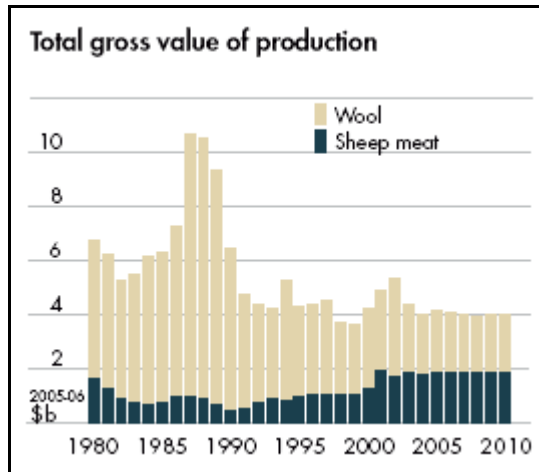
These trends have caused traditional wool producers to respond in terms of flock management and composition with an increased emphasis on sheepmeat production. They have also reconsidered their overall enterprise management strategy and production mix in the light of expected returns from production alternatives, including crops and other types of livestock. These trends are demonstrated in Figure 2.1, showing the relative (indexed) movements in wool and lamb production (ABARE, 2006), and in Figure 2.2, showing the gross value of production of wool and sheep meat, including lamb, actual and forecast, over the same period (ABARE, 2006).

Figure 2.1: Relative movements in wool and lamb production, actual and forecast, 1980-2010



(ABARE, 2006 p61)

Figure 2.2: Gross value of wool and sheep meat production, actual and forecast, 1980-2010



(ABARE, 2006 p62)

In summary, in recent decades sheep producers have faced declining terms of trade for wool that have not been matched by productivity gains. For the most part, any gains in wool productivity have been the result of the running down of labour and capital rather than through innovation in production or marketing. Conversely, rising prices for sheep meat, both mutton and lamb, have been accompanied by strong productivity improvements that have outweighed any decline in their terms of trade (ABARE, 2006). As a result, there has been a shift in the production mix of the Australian flock to favour meat production over wool. This trend is confirmed by a recent gross margin analysis on a dry sheep equivalent (DSE) basis where, for example, a Merino wether producing 21 micron diameter wool averages \$11.72 per DSE, whereas a Merino ewe producing similar wool, but mated to a terminal meat ram, averages \$27.11 per DSE (NSW Department of Primary Industries, 2006). The added impact of drought since the 1990s, and recently, has exacerbated the decline in the total numbers of sheep, particularly wool producing wethers (ABARE, 2007).

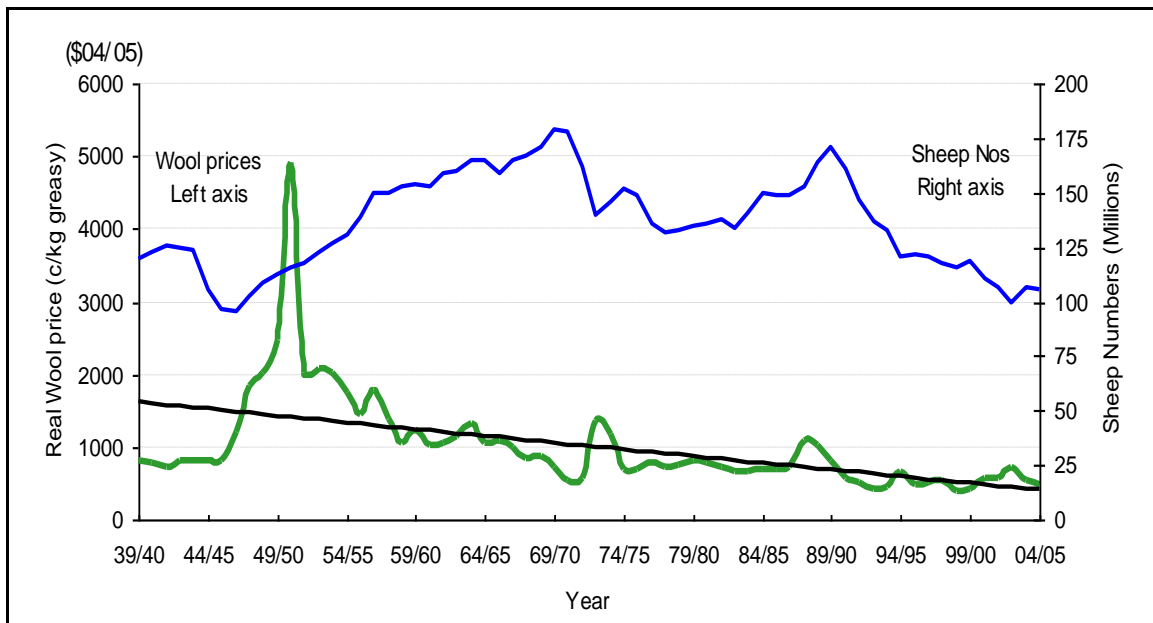
The size of the sheep industry has also fluctuated in response to economic conditions and, as indicated above, drought. Figure 2.3 shows the change in sheep numbers in Australia from the end of the Second World War, when numbers fell to about 100 million head.

The flock gradually increased to approximately 180 million head in 1970. This expansion reflected industry profitability and productivity improvement as a result of investment in areas such as pasture improvement and improved animal husbandry.

The introduction of the Reserve Price Scheme in 1970 accompanied a fall in sheep numbers to about 130 million by 1980 before they climbed to a peak of 184 million in 1990, reflecting the change in the character of the Scheme from one of price stabilisation to price support. The Reserve Price Scheme collapsed in 1991, with a stockpile of some four million bales of wool that continued to overhang the market until it was finally dissipated in 2001. However, by this time sheep numbers had again declined to 100 million head, the level at the end of the Second World War (Peart et al, 2006).

Figure 2.3 also shows the long term decline in real wool prices from the spike in prices that occurred during the Korean War in the early 1950s. While the trend line reflects the overall decline in the terms of trade, the impact of high levels of inflation in the 1970s and 1980s tended to moderate producer perceptions of declining real returns from wool. Factors driving this decline in competitiveness are discussed in the next section.

Figure 2.3: Real wool prices and sheep numbers in Australia 1939-2005



(Peart et al, 2006 p2: Source ABARE)

In summary, the figures indicate growers are responding to the more attractive prices for sheep meat relative to wool in terms of the composition of their flocks as well as in their overall enterprise mix, depending on their individual production possibilities, such as cattle or crops. Hence the decline in sheep numbers.

2.3 The Declining Competitiveness of Wool as a Fibre

The spike in wool prices during the Korean War reflected wool's historical attributes, "...a unique combination of visco-elasticity, moisture absorption, insulation properties, handle, colour, and general reactivity, providing a combination of comfort and appearance with a molecular structure that will readily accept dyestuffs and which can be modified to provide 'easycare' finishes" (Whiteley & Welsman, 1990 pp598-599). No other fibre could match it at the time for quality and price.

Since then consumer tastes and preferences have changed in response to changing life styles and the emergence of competing products. Other fibres have increasingly provided features previously the exclusive domain of wool, and at increasingly competitive prices. The perception of wool as a premium or exclusive fashion product has also been eroded although it continues to command 'niche' status in selected fashion markets, including unlikely counter-cultural ones, such as among 'rappers' and National Basketball heroes in the US (Lempriere, 2006).

Although wool retains its status as a natural fibre with traditional quality, elegance and class, it also has many negative perceptions. These include that it is prickly, that the knitwear 'pills' easily and shrinks, and that garments are hard to wash and difficult to iron. In short, wool is not easy care and it is too heavy, too traditional and too expensive. Technical innovations in the manufacturing process have addressed many of these negative features, producing more light weight, durable and 'breathable' woollen fabrics.

The demand for wool is a 'derived demand' dependent on the final demand for textiles and clothing products containing wool. This demand is intimately linked to total world

fibre demand and competition with other fibres in producing products that reflect consumer preferences. Whereas total world fibre production has continued to increase, wool accounted for only 5.2 per cent of 1990 world fibre production of 39 million tonnes, and this shrank to an even smaller 2.1 per cent of the expanded 2004 production of 58 million tonnes (ABARE, 2006).

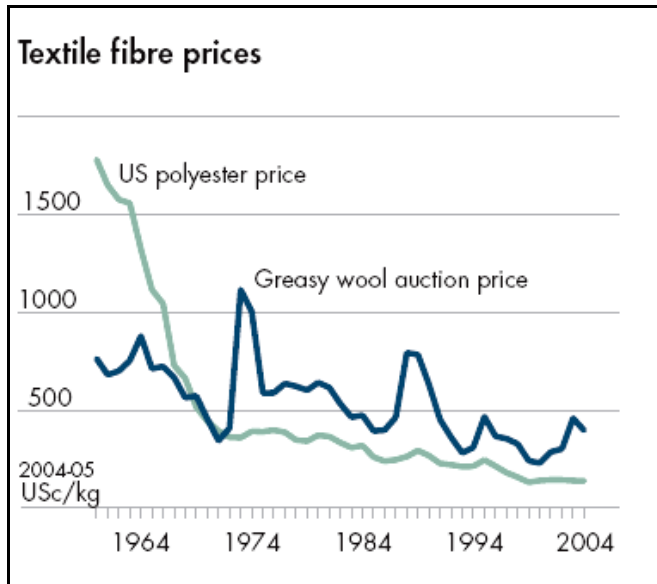
“[W]ool has not only lost market share relative to other fibres such as cotton and synthetics, but worldwide production of wool has also declined in absolute terms (by approximately 40 per cent). Over the same period, wool prices are estimated to have declined, in real terms, by 30 per cent.” (ABARE, 2006 p62)

Wool holds a much higher share of the markets for which it seems best suited. Of the US \$900 billion apparel market, wool holds 8-10 per cent and Australia accounts for some 90 per cent of the fine wool demanded by customers in the lightweight apparel market.

“In women’s wear the unique performance qualities of wool – drape, breathability, comfort, and durability – are discounted against the emphasis on price, fashion, handle and fabric fluidity. Wool has lost market share to blended fabrics of up to three or even more fibres that can better meet the performance and price combinations required.” (Flugge, 2005 p4)

Wool is substitutable with cotton and synthetic fibres in the manufacture of most textile and apparel products. Modern textile technology has developed processing plants that are not fibre specific, enabling the production of minimum cost blends to ever more demanding specifications (Whiteley & Welsman, 1990). Wool’s price disadvantage against other fibres has also been exacerbated by productivity improvements in synthetic fibre production. This longer term competitive price improvement of synthetic fibres is shown in Figure 2.4.

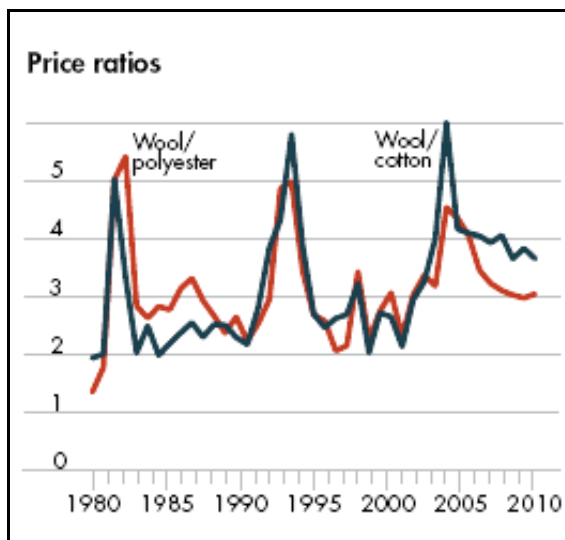
Figure 2.4: Increasing Price Competitiveness of Synthetics



(ABARE 2005, p61)

The continuing price competitiveness of synthetics and cotton over wool is further shown in Figure 2.5. This figure illustrates the price relativities, over time, of wool and cotton, and wool and polyester, respectively. ABARE (2006) notes that while the price relativities of wool over the other main fibres have tended to fall generally in the range of 2 to 3, the sharp escalation of wool prices in the 1980s, and more recently (since 2000), increases the pressure for substitution for wool in intermediate textile production.

Figure 2.5: Price Relativities for Wool-Cotton and Wool-Polyester



(ABARE 2006, p62)

In reviewing the various cost disadvantages of wool over cotton and synthetics along the processing pipeline, the 1999 Wool Task Force report identified opportunities for improving competitiveness while noting

“...raw wool had been able to sustain a price premium of roughly three to one over cotton and polyester, due to a perception of its intrinsic quality advantages. At the finer end of the market, this premium is considerably greater. Similarly, not all wool processors are convinced that chasing every cost reduction achievable makes commercial sense, if there is a reduction of product quality in the process.”
(Task Force, 1999 pA8.9)

The production and processing response to competitive fibre price relativities also reflects changing consumer tastes and preferences. As a luxury fibre, the changing demand for wool by consumers in the developed economies reflects changing life styles. Textile and apparel products made from fibres that are cheaper and often more flexible are making inroads in providing the comfort and fashion and related outcomes required by a more discerning consumer. This consumer demand extends to both synthetic and other natural fibre products, principally cotton. ABARE (2006, p64) suggests that:

“As the balance between casual wear and formal and office wear continues to change, there is a risk that traditional large markets for woollen clothing could become increasingly niche.”

According to Flugge (2005) the fabric market can be segmented into different user groups. For example, seniors place emphasis on comfort and relaxation while others seek to balance work and relaxation with an emphasis on convenience, performance and practicality to “...save time and reduce stress”. The young prefer cheaper disposable fashion which favours synthetics and cotton over wool. At the same time all consumers want excitement in fashion with a “...more individual style, design and structure in smarter and more relaxed clothing”. Baby boomers want “...modern and versatile smart casual apparel, high performance active wear that travels well and performs in terms of comfort, insulation, weather protection and appearance.” These consumer priorities

translate into products that are easy care, machine washable and dryable, non-iron, crease resistant, pilling free and wrinkle free – convenience and performance at an appropriate price (Flugge, 2005).

At the 2006 ABARE Outlook Conference, rural management consultant Graham Peart (Peart et al, 2006 p1) said:

“Demand for wool seems to have contracted at a faster rate than supply under ongoing competition from cotton and ever improving synthetics. Wool represents only 2% of world fibre production. Most people will never wear wool and many won’t ever know the word or of wool’s special properties.”

Industry analysis by ABARE says wool production peaked in 1989-90 at 1.1 million tonnes (greasy), but has estimated production has fallen to 425,000 tonnes in 2006-07, with a further fall to 410,000 tonnes predicted for 2007-08 (ABARE, 2007). This fall is due largely to lower sheep numbers and lower fleece weights as a result of recent adverse seasonal conditions. However the lower levels of production have boosted wool auction prices since late 2006, with the Eastern Market Indicator (EMI) price rising from 720 cents/kg in the first half of 2006-2007 to 920 cents/kg in February 2007 (ABARE, 2007). This level of prices has continued into the Spring and Summer of 2007 with the EMI just short of \$10/ kg despite an Australian dollar trading at record highs (Bavin, 2007; Cuming, 2007). Furthermore, woolgrowers have responded to auction market pricing signals over the past 6 years with a vastly increased proportion of fine wool (about one-third) in the total clip (Wilcox, 2007). The 17 and 19 micron indicators at various auctions in early December, 2007 approximated 1440 cents/kg and 1260 cents/kg respectively (Cuming, 2007).

As noted earlier, the increase in the wool to synthetic fibre price relativity by about a third since last year to 4.2:1 will, if maintained, detract from the competitiveness of wool by encouraging substitution by other fibres (ABARE, 2007), particularly for medium wools (Wilcox, 2007). Although Australia produces about two-thirds of the world’s merino wool, it produces about 95 per cent of the world’s fine and superfine merino

wool. Merino wool is sought for its resilience, its drape as a fabric, its handle, softness and 'next to the skin' comfort (Wilcox, 2007). Together this information suggests that wool is not a homogeneous product and that average price relativities of wool and synthetics are overshadowed by the luxury nature of the wool fibre appealing to various consumer wants and needs.

Woolmark , the industry marketing body, stresses the opportunities for fine merino wool in current marketing trends (Wilcox, 2007). Consumer preferences are for light weight clothes that are comfortable, soft, provide quality, are fit for purpose and provide luxury at affordable prices. Trans-seasonality has become mainstream, requiring light weight and softness next to the skin. Additional demands include 'ethical' production methods, involving environmentally sustainable and clean production and processing that meets minimum labour standards (Wilcox, 2007). Animal welfare is also an issue with the industry currently addressing concerns over mulesing (surgical treatment of the hindquarters to reduce fly strike) as demonstrated in a recent spate of letters to the editors of rural newspapers (Letters to the Editor, *The Land*, 6 September 2007).

On-farm productivity growth in wool production has been low compared with other areas of agricultural production, accelerating the movement of resources out of specialist wool production. The Wool Industry Future Directions Task Force (1999) and Ward (1998) contrasted annual productivity improvements in wool production of 0.5 to 1 per cent with beef at 1.6 per cent, 3 to 4 per cent in the cereal and cotton industries and 5 to 6 per cent for synthetic fibres.

“However, since the mid-1990s, adoption of new technologies and farm management practices has led to appreciable gains in the quality and quantity of wool and sheep meats produced by specialist and mixed enterprise sheep farms. Productivity was stimulated as producers responded to higher lamb and sheep prices by increasing turnoff and dedicating a proportion of the sheep flock to crossbred sheep for meat production. Sheep industry productivity growth has also been driven by producers selectively breeding a merino sheep flock that produces

finer wool, steadily falling sheep death rates and an increase in lambing rates.”
(ABARE, 2006 p6)

High performing farm enterprises are also characterised by superior business and marketing practices, including strategic and business planning, risk management, participation in groups, quality management and customer focused marketing (O’Keeffe and Fletcher, 1998; Samson, 1999). Such strategies focus on the business enterprise or business network or chain, a paradigm shift from the focus on the industry. Traditional generic approaches to promotion or research characterise the old industry focus.

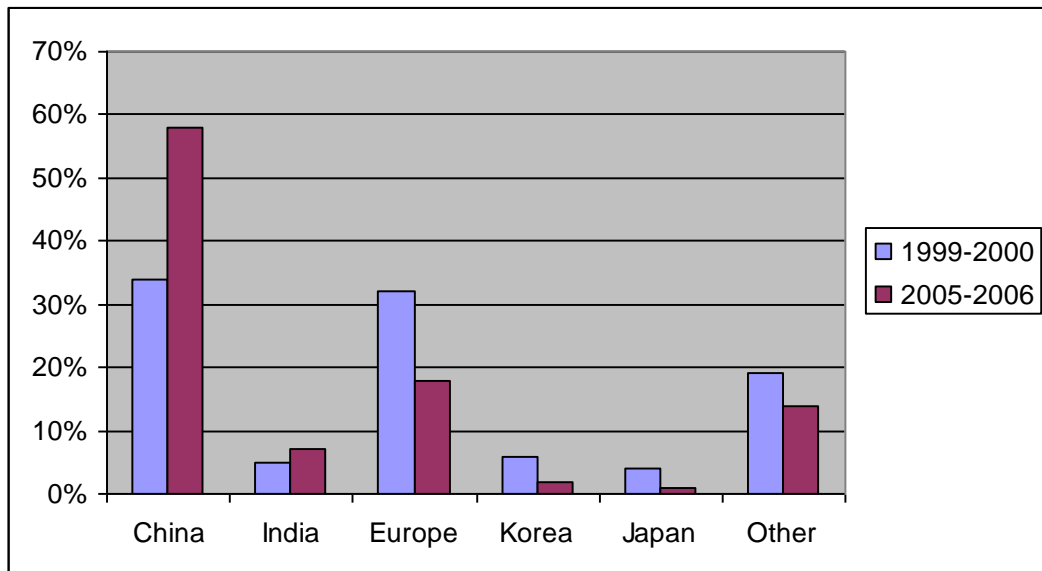
The old reserve price scheme, originally introduced in 1970 to stabilise wool price fluctuations, had come increasingly to look like a price support mechanism. Its operation saw the wool stockpile grow to unsustainable levels (some four million bales). This stockpile affected all levels of the supply chain.

“The reserve price scheme imposed by a capital rich farmer controlled wool board caused major distortions to the normal supply, demand and price signals, ultimately leading to the accumulation of a massive unsold wool stockpile and the bankruptcy over time of many wool processors as well as wool growers. In the post stockpile era no part of the wool processing pipe line wishes to hold inventory. There has been a major shift of wool processing capacity from Europe and developed nations to low cost or developing nations, largely China and India.” (Peart et al, 2006 p1)

Over the last 20 years, the international wool processing sector has gone through a period of significant re-location and rationalisation. As indicated above, the abandonment of the Reserve Price Scheme disadvantaged all wool stock holders and forward contractors, many leaving the industry.

The most dramatic change has been the continuing re-location of the wool scouring, top making and garment making industries to China and, to a lesser extent, India. This dramatic change in the direction of international wool processing activity is reflected in the change in the six years 1999-2000 to 2005-06 in the destination of Australian raw wool exports, with China increasing its share of Australian wool exports from 34 per cent to 58 per cent over the period. ABARE also notes the AWI estimate that China's domestic market absorbs 65 per cent of Australia's raw wool exports (ABARE, 2007).

Figure 2.6: Australian Wool Exports by Destination, 1999-2000 to 2005-06



(Adapted from ABARE, 2007 p55)

2.4 Wool Industry 'Renewal'

The decline in the Australian wool industry since the collapse of the reserve price scheme caused considerable angst in the industry generally, and considerable financial and personal hardship for many producers. In 1998 growers carried a vote of no-confidence in its peak body, the Australian Wool Research and Promotion Organisation, which the government subsequently sacked. The vote was a concrete expression of grower

confusion about possible futures and led to the formation of the Australian Wool Task Force. The new Task Force was charged to review the competitiveness of wool, the performance of wool and wool products in international markets, the performance and profitability of wool businesses and the industry's administrative arrangements. It concluded that

“...unless dramatic changes occur quickly, woolgrowing will retreat to a relatively small rural activity. Conversely, if major improvements do occur, there is no reason why the competitiveness of wool and profitability of wool businesses cannot increase.” (Wool Taskforce, 1999 p5)

At about the same time in New Zealand (NZ), McKinsey and Company were commissioned to make recommendations on the development of the NZ wool industry. This followed woolgrower disillusionment with the New Zealand Wool Board, and the perceived lack of value from compulsory levies. McKinsey's recommendations in 2000 led to organisational changes including the abolition of the Wool Board and a new commercial focus through the New Zealand Merino Company (NZM), a joint venture between Merino New Zealand Ltd, an industry marketing organisation similar to Woolmark in Australia, and Wrightson's, New Zealand's major wool broker. The New Zealand Merino Company has become the vehicle for major change in the marketing of NZ merino wool which is now seen, anecdotally, as the model for a value chain approach to wool marketing generally.

“Over the past decade, the organizational structure of the New Zealand merino industry has undergone a series of rapid changes that have progressed the industry from a publicly regulated marketing structure, characterized by spot auction markets, to a privately controlled relationship marketing structure in which tight contractual arrangements have become increasingly common and philosophically the core business of the largest broker, NZM.” (RMSG, undated p152)

Some 45 per cent of New Zealand's merino wool is marketed through the New Zealand Merino Company and involves long term forward contracts and relationships with major international retail brands. The arrangements bring a mix of financial and social capital benefits to woolgrowers, the latter involving the development of skills and capabilities through learning as a result of relationship development and communication with chain partners. For retail brand managers the arrangements remove longer term price volatility and build brand equity.

“This has seen significant change in how supply chain members behave; cooperation and relationships are now the basis of NZM's operation, a stark contrast from the adversarial relationships that characterised the industry 10 years ago.” (RMSG, undated p154)

In 1998 the WA Wool Strategy Group commissioned the Medici report to provide a strategic plan for the WA wool industry by identifying alternatives for growers and other industry participants. The Wool Strategy Group does not have the leverage of a statutory levy funded organisation such as AWI. The report's recommendations reflect the specific circumstances of the WA wool industry but favour a value chain model very similar to the New Zealand Merino Company, that is, long term contractual arrangements with a narrow range of international branded retailers. However the report appears to lack substance in terms of implementing a value chain approach or in addressing the critical factors for success which are the focus for this study.

The Wool Task Force identified many areas for performance improvements and innovation across farm production and management, through the processing chain, and refinements to industry organisational structures and the administration of statutory powers. On the marketing side, the Task Force rejected any idea of a return to a reserve price arrangement. Rather it identified risk management, improved auction arrangements and electronic selling, the role of the Australian Wool Exchange (AWEX), direct and forward selling, the role of marketing groups and direct supply contracting as areas of

improvement. While these measures are largely refinements to traditional commodity marketing, the Task Force recognised the potential for rapid change in wool marketing.

Specifically, the Task Force's conclusions included the potential for woolgrowers combining in marketing groups; obtaining greater processor feedback on the spinning performance of their wool; and producing quality assured product. The Medici report was initiated to provide woolgrowers with alternatives to traditional selling methods particularly options which enhanced relationships through the chain. The New Zealand Merino Company has been a successful outcome of taking up the recommendations of the McKinsey review by involving NZ woolgrowers in the marketing of their own wool. It is surprising that greater encouragement has not been forthcoming for Australian woolgrower networks to build their skills and capabilities through an action learning approach supported with investment in such business innovation.

Recent studies in supply chain marketing and risk management commissioned by AWI in 2005, apparently in response to industry pressure, and recorded on the AWI website (www.wool.com.au) but not yet officially published, include a "Wool Marketing and Risk Management Scoping Study" (Project EC 740); and a "New Zealand Merino supply chain business model for Australia" (Project EC 709). An additional document, described as the AWI response to the recommendations from the above projects, is also provided. This response rejects many of the projects' recommendations, particularly recommendations that could involve innovation in marketing by woolgrower groups. Surprisingly, given the thrust of the aforementioned industry reviews, a recommendation that "...basic upskilling and education of grower group leaders should be initiated and partnership with organisations that provide other complementary services should be developed" (TMC, undated p9) was considered a low priority for AWI.

Each of the reports demonstrates some appreciation of the nuances of value chain approaches, particularly in the discussion of supply chain case studies in alternative agricultural sectors featured in the "NZ Merino supply chain business model for Australia" study. The bulk of the "Wool Marketing and Risk Management Scoping

Study” report and its recommendations address price risk management and other features typical of commodity trading arrangements. However the report draws heavily on the Champion & Fearné wool supply chain studies, also referred to elsewhere in this study, to identify features of supply chain approaches, noting:

“This ‘spirit’ of the supply chain approach has also been identified as a distinguishing feature of SCM operations like Tasmanian Quality Wool and The New Zealand Merino Company, a key factor that seems to set them apart from other grower based ventures.” (RMSG, undated p33)

Some seven years after the Task Force review of the Australian wool industry it appears that most of its conclusions in the marketing arena have largely been overlooked in favour of the status quo. This contrasts with the innovative approach in the formation of the New Zealand Merino Company following a similar review which a number of reports, including AWI’s commissioned studies, suggest has been successful and tends to belie the ‘innovation’ underlying the AWI’s rationale.

It is not the purpose of this study to explore the political economy of the various statutory funded organisations in the major pastoral industries, but anecdotal evidence suggests a ‘gatekeeper’ role exercised by these agencies in providing support for business and market innovation, driven by their own shareholders, the bulk of whom are small growers. For example, there appears to be reluctance among these statutory organisations for their grower shareholders to engage much beyond the farm gate in a way that could threaten established marketing arrangements. As agencies of traditional commodity marketing arrangements, their substantial budgets sourced from marketing levies, and government sourced matching funds for research, support an industry bureaucracy and governing ‘fiefdom’ of boards and centres of entrenched industry interest that are often inimical to change. For example, The Task Force report quoted a scathing assessment in evidence from a grower reflecting on recent industry experience.

“Twenty eight years of statutory management, political, agri-political, and bureaucratic interference, aligned with the entrenchment of an FAQ (fair average quality) commodity culture, has allowed non-accountable, non risk-taking people to set the agenda for a global value chain instead of the commercial world doing so. The result has been the degradation of complexity, initiative, creativity and innovation. Conversely the wool fibre and Australia have extraordinary potential and numerous comparative advantages. The challenge is to change the commodity culture and move the focus away from generic mediocrity to one of high quality and differentiation.” (Task Force, 1999 p73)

In many ways this comment encapsulates the essence of a value chain model where the emphasis is on individual businesses and their specific chain rather than the industry, on differentiation through market innovation, and on quality in the sense of meeting the requirements of specific consumers in identified market segments. In commenting on the niche marketing of the Escorial brand (based on the Saxon Merino) by Peter Radford, Massy noted in his authoritative work on the Australian Merino

“...it is unsurprising that Radford and his peers encountered enormous resistance from the political and marketing wool establishment as they sought to break the commodity mould ...If the political and cultural shackles could be broken, then through targeted breeding via precision tools, dozens of sub brands built around distinct fibre types are possible – as opposed to the generic commodity of ‘wool’.” (Massy, 2008 p1174)

This criticism lends support to the views referred to in the Forward and in the Introduction which suggest that modern business practice is being hampered by the influence of traditional farm lobby groups. The Editor’s View in the December, 2007 edition of the Farm Journal, referring to a speech by grains industry leader Tom Keene, CEO of GrainCorp, and to the new edition of Charles Massy’s book on the Australian Merino, noted how agri-political organisations, departments of primary industries and educational institutions sometimes band together to produce desired outcomes.

“When Keene said: ‘The grains industry has a sad history of playing the man and not the ball when it comes to debate over policy ... This ‘mob rule’ mentality means that anyone with the temerity to enunciate a vision that differs from the orthodox has been subject to vocal castigation and discrediting ...’, he could just as well have been referring to Merino sheep breeding in the 1990s, or to the future of Middle East live sheep exports, or the introduction of GM canola today.”
(Francis, 2007 p3)

This study is based on the proposition that innovation in business and market development is required at the business, as distinct from the industry, level to address the emerging forces of change, including the opportunities these forces provide. Gary Hamel and Lowell Bryan, in an interview with Joanne Barsh in the McKinsey Quarterly (January, 2008), said:

“There is need for companies to innovate management practices to better cope with and thrive in a business landscape marked by fundamental technological change and innovation ...traditional management models do not enable businesses to adequately respond to today’s competitive forces. In a new environment that places a premium on collaboration and talent they view old organisational structures as impediments to innovation and creative strategy.” (Barsh, 2008 p1)

The basis for more innovative marketing was confirmed in the 1999 Wool Task Force review which considered a wide range of initiatives, particularly by growers and brokers, either to enhance the operation of the auction system, to reduce supply chain costs or, in a number of cases, to enhance returns through greater involvement of growers with processors and retailers. What is the basis of this proposal?

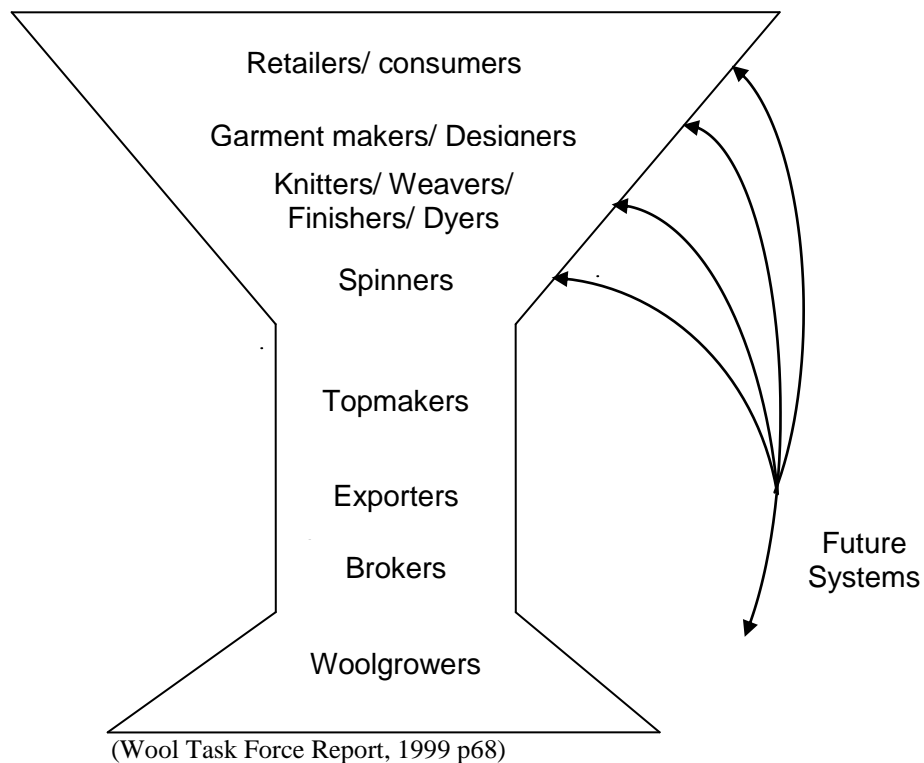
The review referred to the ‘wineglass’ or ‘hourglass’ structure of the processing chain, a copy of which is reproduced in Figure 2.7 below, to demonstrate the inadequate communication between woolgrowers and their later stage customers. This representation is the key to understanding the weakness of the current auction system and

the potential of the value chain concept. The neck of the wineglass represents the concentration of a relatively small number of highly capital intensive early stage processors who rely on scale economies to contain costs by processing large batches of wool from a wide variety of woolproducers, essentially to produce a specification to a price. Hence the expression ‘blending down to a cost’ rather than ‘up to a quality’, as explained in detail below.

2.5 Impediments to Marketing Innovation

Consequently the Wool Task Force sought to identify how consumer value is created and how the intrinsic qualities of wool are transmitted through the processing chain.

Figure 2.7: The Wool Textile Chain “Wineglass”



The following table outlines the general role of the various participants in the wool production, processing and marketing chain, from woolgrower to product retailer:

Table 2.1: Wool Supply Chain Participants and their Roles

Woolgrower	The woolgrower produces, harvests and subjectively grades raw wool, which subsequently enters the chain. The production sector of the Australian wool industry is characterised by a large number of small clips (EC740).
Broker	The wool broker is a facilitator, facilitating the sale of growers' wool through the auction system (McKinsey and Company, 2000). This facilitation role includes a number of tasks, such as receiving growers' wool, storage of wool, technical and financial service provision, auction organisation, sale of wool on behalf of the grower and invoicing the buyer, along with other tasks (McCrea <i>et al.</i> , 1998; McKinsey and Company, 2000).
Buyer	The buyer's role is to purchase wool from the broker under sale contract with the processor. The processor may source the wool through an in-house buyer, through a third party buyer or a mixture of both. Buyers receive orders for wools of particular specification from a processor and agree to supply the wool for a certain price. The buyer then buys the wool, mostly at auction. The buyer will try to obtain the wool at the lowest price and includes lots of differing quality so that the physical parameter averages meet the specification required (McCrea <i>et al.</i> , 1998).
Topmaker	The role of the topmaker is to transform raw wool into processed top. This process involves: <ul style="list-style-type: none">• scouring - removing impurities from the fibre through washing;• carding – removing vegetable matter and forming the wool into a continuous strand of fibres called a sliver;• gilling – straightening the fibres and presenting them in a preparatory form for combing;• combing – creation of a continuous and even band of fibres from which vegetable matter and short or tangled fibres have been removed;
Spinner	The spinner takes the top from the topmaker to produce yarn for the downstream knitter/weaver.
Knitter/ Weaver	The role of the knitter/weaver is to knit/weave yarn into fabric to be used by the downstream garment maker.
Garment Maker	The garment maker produces final garments from fabric supplied by the knitter/weaver.
Retailer	The retailer is literally the 'shop window' through which garments are sold.
Consumer	The consumer is the one who buys the garment. (Champion, 2000 from RMSG, undated p12)

Table 2.1 shows in the roles of the broker, wool buyer and topmaker, how the auction system inhibits direct contact between growers and customers. Growers do not normally attend auctions and rely on their brokers to represent them. The brokers provide woolgrowers with pre-sale estimates on the basis of recent auction results for similar categories of wool and woolgrowers will normally set reserves whereby the wool can be passed in to be put up on another day. A particular lot can be limited to a single bale. Wool buyers acting on behalf of processors typically buy wool in mill lots of up to 1000 farm bales against a catalogue of entries for the day. Their purchases are based on a daily auction catalogue, grower lot samples and specific description criteria based on tests provided by the Australian Wool Testing Authority (AWTA). Wool buyers normally buy to processor orders against price and specific processing criteria which encourages the blending of lots to meet specific price criteria.

“In the process much of the intrinsic value of wool is lost, as some topmakers blend ‘down to a cost’ rather than ‘up to a quality’. This is reinforced by the large size of mill lots – up to 1,000 farm bales.” (Task Force, 1999 p69)

The diversity of raw wool production is thus negated at the point of sale and in the early processing stages because of the capital intensive nature and concentration of early stage processing (topmaking and spinning) and the focus on processing cost. For example there are only about 30 topmakers worldwide with the largest eight accounting for the bulk of production (Task Force, 1999). Further rationalisation has occurred in the early stage processing industry with the concentration of processing in China. However, as the recent experience of WoolConnect has demonstrated, Chinese manufacturers are under continuing pressure to maintain their cost competitiveness with volume production runs to drive economies of scale.

At the 2006 ABARE Outlook Conference Michael Lempriere, President, International Wool Textile Organisation said the industry structure and the organisations representing it were remarkably similar to the situation at the time the reserve price scheme collapsed.

“The major proportion of the clip is still sold through the auction system at five different locations. The average lot size is still far too small, adding to complexity and cost. There is still a lot of misunderstanding between the producer and his immediate customer – let alone his final customer – the retail consumer. There is still a statutory body which relies on compulsory levies for its income, which is charged to spend the money wisely on behalf of its constituents, and there are still people (from all levels of the pipeline) who question the direction and efficiency of that expenditure.” (Lempriere, 2006 p1)

Lempriere canvassed what he saw as the challenges facing the wool industry including maintaining production in the face of declining prices, pursuit of other more attractive opportunities, declining farm labour availability, maintaining profitability and investment in processing, the dependence on China and the challenge to

“...encourage more and better demand chain cooperation with long term negotiated prices and conditions satisfactory to all parties.” (Lempriere, 2006 p4)

He added this should take place in an environment of continuing R&D to enhance on-farm productivity and quality but leaving processing and product development R&D to the processing industry. He also argued strongly for a whole of chain cooperative demand driven approach through joint customer focussed promotion to ensure

“...wool ...maintains and builds its position as the fibre of choice for the upper level market ...and becomes more of a niche ...a luxury, premium niche.” (Lempriere, 2006 p6)

2.6 Towards a Value Chain Approach

In 2005 the AWI commissioned two reports; one on supply chain and risk management and the other an assessment of the New Zealand Merino Company model. The latter

sought to address the applicability of that model to the Australian wool industry. AWI indicated the reports were commissioned as "...an input into internal planning and strategy development processes and as a resource for interested parties in the wool processing pipeline, recognising the high level of interest in these areas" (AWI, undated p1). These recent reports indicate progress has been slow since the Wool Task Force report which stated:

"If wool's full potential is to be realised, effective lines of communication will need to be established between woolgrowers or woolgrower groups and these later stage processors. Most successful manufacturing industries have developed strong supply chain relationships ...Previous buyer seller conflict and opportunistic trading have given way to mutually dependent long term partnerships." (Task Force, 1999, p69)

Champion & Fearn (1999) refer to the adversarial nature of the wool chain where ownership transfer is conducted on a 'win-lose' basis whereas in a supply chain context relationships must be truly two way in nature and equally meaningful for both the buyer and the seller. Social aspects such as trust, information transfer and learning capability will influence the performance, development and survival of SCM arrangements. Commercial drivers and goals are important, but views of relationship are central to sustained competitive advantage in these systems (RMSG, undated).

Partnerships in the wool chain have an important influence on the use of wool. The Task Force quoting the Australian Wool Corporation (1973) report on wool marketing referred to the importance of the interface between makers-up and retailers and between makers-up and weavers as the two areas most critical in the choice of fibre. Since that period, with greater vertical integration and more partnerships in the wool textile chain, spinners have tended to be more innovative in fibre blending and in marketing yarns to knitters and weavers. Spinners increasingly can influence fibre choice and retailers also are taking purchase risks in ordering particular product lines. Previous research suggested the consumer had been more concerned with style and colour than the type of fibre used

in a garment, although the issues of prickle, ease of care, and pilling were significant consumer concerns with wool (Task Force, 1999).

To return to the structural issues, while considerable product diversity reappears among later stage processors (knitters and weavers, finishers and dyers, garment makers and designers); there is very little contact at this level with wool producers because the origin of the wool moving through the auction process described above has been lost. The Task Force contrasted the situation with the strong supply chain relationships found in many manufacturing industries as well as other areas of agribusiness, such as the wine industry, where there are often strong relationships between wine grape growers and winemakers, often incorporated in the 'provenance' of the specific label of wine produced. This is not unknown in the wool industry where much is often made of the 'provenance' of particular wool, as evidenced by the Escorial brand referred to earlier. This research suggests a much greater opportunity exists to capture these intrinsic benefits across the broader range of wool production.

“Today, only the *crème de la crème* jointly co-market the Escorial label: the likes of Brioni, Chanel, Gucci, Comme des Garçons, Yves Saint Laurent and Louis Vuitton. All this ...from the 50,000 core Saxony sheep in the three parent flocks and which yield only 20 to 30 tonnes of fibre. By 2001 this co-branding strategy was yielding over \$100 million turnover in retail value.” (Massy, 2007 p1174)

This gets to the heart of the value chain research question. How do you do this? What critical factors underpin a value chain model? How do you assess performance? These key questions lead to a second level of inquiry. What is your point of difference? How do you identify and build relationships with critical partners in the chain to deliver this point of difference? How is the chain coordinated and managed? What are the skills and capabilities required to be an effective chain participant? What are the rewards for pursuing such a strategy and what are the risks and how are they managed?

2.7 Woolgrower Initiatives

Woolgrowers have not been complacent in attempting to increase business performance and some have attempted closer liaison with chain partners to achieve improved marketing outcomes. For example, a 1997 survey of some 19 woolgrower groups (out of 31 identified), accounting for some 2000 woolgrowers producing 90,000 farm bales (about one per cent of the annual Australian clip), indicated about half the groups were established on specific bloodlines; 68 per cent had a quality assurance objective; 42 per cent were regionally based and 37 per cent included a value adding component. Clearly a number of groups had more than one focus. It was found some groups have survived the test of time but they are few and are characterised by a strong commitment to management of the group, often with professional assistance (Michael, 1997; RMSG, undated).

Similarly in 1999 the Task Force also received evidence from individual growers, such as Vale View, and grower groups, such as Queensland-based regional group, Traprock Wool, and bloodline group, Pooginook Wool. Each of these sought to differentiate their product with chain partners involved in processing and/or retailing. It concluded that alternatives such as these provided for innovation in wool marketing "...which was poised for great change and dynamism in the immediate period ahead" Task Force (1999, p73). It was important to understand the costs of production and to use appropriate financial management tools, network with others, obtain feedback from processors on spinning performance and implement quality management approaches. Why hasn't this occurred? Some 80 per cent of the clip is still sold through auction, with most of the balance sold through brokers under private treaty arrangements (AWI, 2007).

The recent AWI Scoping Study report analysing the current situation with many woolgrower groups found their marketing strategy has often been some type of supply chain management (SCM) strategy. It found most have ceased operations for various reasons whilst those still operating have tended to become niche product suppliers.

“There has, however, been one alternative, the New Zealand Merino Company’s model, that appears to have a sound commercial base and the model may offer an opportunity to expand this type of marketing option in Australia.” (RMSG, undated p41)

AWI has responded to widespread interest in the NZ Merino Company model with the report commissioned in 2005 referred to earlier. AWI’s response to that report and the related Scoping Study indicates some reluctance to take the steps recommended to invest grower levies in training and capability development. The outcome suggested, surprisingly and contrary to other evidence from various enquiries such as evidence to the Wool Taskforce (1999), that there was a low level of dissatisfaction with the current system (auction), and a low level of understanding of what an alternative system might provide. There was also little interest among participants in the vertical chain in alliances with woolgrowers to develop demand chain management models, the degree of interest declining along the chain.

It could be argued that New Zealand woolgrowers were more attuned to the potential for the McKinsey proposals, given previous experience with the Merino New Zealand Ltd branding initiative in 1998 and the associated alliances developed at that time with processors and manufacturers. NZ farmers generally have a reputation for being more internationally oriented, because they have to be given their small domestic market, and hence demonstrate a more aggressive international marketing orientation than Australian farmers (examples include horticulture, lamb, beef and dairy products).

Recent reports from AWI and Woolmark (Wilcox, 2007) indicate more attention is being paid to activities suggested in the Task Force report. This attention includes greater interest in supply chain initiatives by grower groups and brokers to link to retailers, designers and manufacturers to promote the qualities of wool. AWI is also engaged in the development of product integrity verification for Australian merino wool as an example of information management and transparency through the chain (Wilcox, 2007).

As indicated previously, in 1998 the WA Government-sponsored Wool Strategy Group commissioned a Strategic Plan for the West Australian Wool Industry, the Medici Report (Medici, 1998). This report provided growers with an alternative to the traditional auction system to consider; an alternative largely directed to forming relationships with major buyers in the market. The strategy was developed in discussions with businesses in Europe and Asia across the entire wool supply chain with a view to developing a better “...understanding of the needs and wants of the market” (Medici, 1998 p10).

“As evidenced by its behaviour, the Western Australian wool industry does not understand its market as a whole nor does it understand the basis of decision making throughout the entire value chain ...which ...has at a minimum nine stages. ...Each ...has a good appreciation of the stage immediately before and after it, but weak information beyond this point.” (Medici, 1998 p10)

Table 2.2 highlights differing attitudes among woolgrowers to their businesses. It also highlights the attitudes underpinning a commodity versus a product or market orientation. Similar analysis could be extended to businesses in the vertical chain. The TMC (undated) study discusses a variety of research to explain the failure of various approaches to enhance supply chain performance and possible reasons for failure. This research seeks to provide additional insights into the factors likely to achieve success in developing a value chain business model.

Table 2.2: Characteristics of Woolgrowing Approaches

Lifestyle (Occupation)	Business (Small business)
Passive	Active
Males (fathers and sons) provide the labour	Farm family provides the management
Future is owning the land	Future is management ability
Commodity prices determine income	Decisions (largely) determine income
Income determines investment and expenditure decisions	Investment and expenditure decisions business decisions
Little value in information; closed information networks. New information often introduced by the retailer, breeder and/or stock agent	Value information – open information networks
Minimising costs is the only profit driver under control	Productivity leads to profitability
Never consider changing the grazing system	Interested developing more efficient grazing systems
Waiting for the next wool price hike	Managing wool price volatility and links with customers is an important challenge
Farm stops at the farm gate	Farm extends beyond the farm gate
Time has low value	High value on time
Few alternatives	Alternatives

(O’Keeffe & Fletcher 1998 as reported in TMC undated, p16)

2.8 Wool Producers at the Crossroads

Wool and sheep producers are now at a major decision point as regards the balance between sheep meat and wool production, given the uncertain outlook for the latter. While the prospects for sheep meats are very strong, the outlook for wool seems less certain. What then are the options for the nation's sheep producers?

“[D]ual purpose wool and meat sheep; cross bred meat lambs; hairy wool-less sheep run like cattle for meat only; or an ultra fine Merino sheep supplying an expensive, volatile boutique fashion industry; or abandon sheep all together?”
(Peart et al, 2006 p1)

The WA Wool Strategy Group (Medici, 1998) concluded grower groups demonstrated advantages, particularly with respect to the WA development of the Indian market, and supported their continued development. However it considered the execution of the idea underlying grower action had been wanting because, in circumventing the trade, the skills required in international trading, “...finance, pricing mechanisms, marketing, logistics management, supply chain management and contracting” had been deficient and “...the largest most valuable customers require regular supplies of wool that are, at a minimum, in the order of 20 tonnes” (Medici, 1998 p12).

“Grower groups have fallen well short of the ability to supply these sorts of consignments on a regular basis and have on occasions made this more aggravating to buyers by producing one lot of truly excellent wool, which was found to be very attractive by the customer yet when they sought regular supply, found that it was unavailable.” (Medici, 1998 p13)

The Queensland based Traprock Wool Association is a group involving 70 growers who have sought to develop a ‘branding’ strategy in the traditional auction system by developing a quality management system based on international standards to promote the Traprock brand direct to the trade, with a limited range of garments also produced under

the Traprock brand. The group continues to promote its practices with potential buyers (Finlay, 2005). However the major benefit of the group may well be in the forum it provides for members to increase their awareness on a range of issues. This is similar to the Yass Merino Growers group which is based on the long standing Bookham Agricultural Bureau. Grower groups seem to satisfy a range of objectives, some perhaps undefined, in meeting the needs of woolgrowers particularly since the collapse of the Reserve Price Scheme, a period of great change and uncertainty within the industry.

2.9 Wool: Commodity or Product? What might Supply Chain Management mean for the Wool Industry?

Champion and Fearne (2000) advocate a ‘product’ as distinct from a ‘commodity’ approach where specific customers’ needs are identified to drive innovation in marketing, based on developing relationships with chain partners. They emphasise an approach directed towards satisfying customer needs increasingly focuses on the ‘intangibles’.

“Quality and price are no longer enough to persuade people to purchase (these characteristics are often in abundance and may no longer be a point of differentiation between products). As a result, aspects of emotional, ethical, aesthetic or ecological origin become important influences of purchase decisions.”
(Champion and Fearne, 2000 p4)

The continuing treatment of wool as a commodity through the dominance of the auction system limits the ability to pursue consumer value by creating a marketing system which efficiently transmits market signals of the intangible benefits of the product. This is in effect the same point made by the Wool Task Force.

“The task then is to capture value through systems that allow effective communication and the transmission of the ‘hard’ and ‘soft’ product characteristics from raw material to the consumer. Supply chain management is a potential mechanism for doing this.” (Champion and Fearne, 2000 p5)

The general performance of the Australian and New Zealand merino wool industries over the past decade stand in stark contrast. The essence of that contrast is in the ‘commodity’ versus ‘product’ marketing focus in the respective industries. The New Zealand Merino Company business model has enabled selected NZ wool producers to capture consumer value through the relationships established with major international consumer brands. The engagement of marketing and management expertise in the development of the New Zealand Merino brand, the building of relationships with key partners and the value of those relationships, and the expertise of Wrightson’s personnel have underpinned the success of the New Zealand Merino Company. The NZ merino wool industry is a small fraction of the size of the Australian industry.

However a distinguishing feature of the New Zealand Merino Company business model is the building of a culture throughout the chain, and particularly with woolgrowers. This cultural change is achieved by providing feedback to growers through direct engagement with other chain partners using roadshows held several times per year. Brand partners participate in these roadshows and provide updates on current initiatives and the market outlook and provide a forum for growers to air any concerns. Growers are able to identify with specific brands and develop ownership and commitment with the specific chain with which they are involved (RMSG, undated).

“The New Zealand Merino Company ...model is the result of a process of major change, both in terms of organisational structure and in the attitudes of various actors throughout the New Zealand Merino supply chain. This has seen significant change in how supply chain members behave, with the adversarial relationships that characterised the industry 10 years ago now replaced by cooperation, co-ordination and joint activity in a number of areas. It must be emphasised that this process of change has not been easy, requiring considerable commitment and perseverance by a number of key people and organisations for it to succeed. A consistent drive towards an unchanging goal over an extended period of time has been central to the success of the current structures.” (TMC, undated p17)

The TMC clearly identifies the importance of building social capital through cultural change. It is a model rejected by most Australian growers largely because of lack of understanding or appreciation of the dramatic cultural change involved in moving from a commodity marketing mindset to a product marketing orientation. This is the paradigm shift referred to in the title of this study. It also underlines the assertion developed in Chapter 3 that a value chain is a learning chain.

2.10 Conclusion

This Chapter has provided an overview of the Australian wool industry and consideration of an alternative business model for the marketing of wool. The Australian sheep industry has changed immensely since the collapse of the Reserve Price Scheme in the early 1990s and the dramatic decline in the volume of wool production. The international textile and apparel industry has also undergone major structural change and the place of wool as a competitive fibre within that industry has been eroded.

Australia is the world's major producer and exporter of fine wool. The producers of wool are many of the same farmers who produce a range of our most significant foods, lamb and mutton, beef and various crops. The competitive cost base of Australia's traditional agriculture is being challenged by others, including many developing countries in South America and elsewhere. However there are opportunities as the winds of change open new market opportunities with more discerning consumers in food and fibre markets. The challenge is to adopt business models which more effectively target and meet the needs and wants of those consumers in both the food and fibre industries.

In the wool industry in Australia and New Zealand increasing dissatisfaction with traditional industry structures and marketing methods has seen industry reviews and studies and attempts to develop alternative business models. The institutional infrastructure underpinning a commodity marketing focus, which has served well in the past, is under increasing pressure from the impacts of globalisation, technological change and more open markets. This traditional infrastructure appears to have too much at stake in maintaining the existing system to be agents for change. A value chain approach has

demonstrated some success in New Zealand's much smaller merino wool industry as well as in specific cases in Australia with the Escorial branding strategy and, to a lesser extent, with Tasmanian Quality Wool. Potentially it has much wider application in the Australian wool industry. The question is how this can be done without relying on the existing commodity marketing infrastructure, much of it with statutory backing.

Material in this chapter has identified essential areas for consideration in a value chain business model. These can be summarised as:

- A focus on delivering consumer value (rather than a focus on the next customer in the chain)
- An appreciation of the skills and capabilities underpinning a value chain culture
- A commitment to chain development and building relationships with chain partners
- Efficient and effective supply chain management and leadership
- Demonstration of financial rewards and management of risks

Several models have been identified of which the New Zealand Merino Company provides the most dramatic example of apparently successful implementation of a value chain model. However the WoolConnect case provides a more grassroots example more relevant to the development of the Australian wool industry with its enormous diversity of wool types and strains. In Chapter 3 the available research in value chain and related areas is explored to validate the assessment criteria suggested by business practice in the food and fibre sector, bearing in mind the broader research objectives of this study.

Chapter 3

Contemporary Product Marketing Theories

3.1 Towards an Alternative Business Model in Agrifood Marketing

Chapter 1 introduced the notion that business faces increasing competitive forces as a result of globalisation, technological change and market liberalisation (Huyett & Viguerie, 2005; Omta et al, 2001). The literature abounds with examples of business responses to the emerging forces of change. For example, Lambert & Cooper (2000) contend that modern businesses compete on the basis of supply chains, of inter-network competition where success depends on management integrating an intricate network of business relationships.

A body of literature also has emerged examining new business models across the Agrifood sector. Gow et al (2002) conclude that the way firms create and capture value is now a major issue confronting Agrifood businesses facing highly volatile markets. Those businesses need to identify, cultivate and exploit their core competencies to meet changing client needs. O’Keeffe (2000) emphasises that value creation depends on building a market offering based on assembling a set of core capabilities beyond those available within the firm by developing strong relationships with key partners. The financial survival of producers in many traditional commodity industries depends on more effectively meeting the needs of modern consumers (Heilbron & Larkin, 2006). The key to survival in increasingly volatile and turbulent markets as life cycles shorten is through agility, in particular by creating responsive supply chains (Christopher, 2000).

Wool is no exception. Australia and New Zealand between them produce and export almost all of the world’s fine wool. As argued in Chapter 2, the wool industry has undergone massive structural change since the demise of the Reserve Price Scheme at the

beginning of the 1990s. Sheep numbers and wool production have more than halved. Prices for wool at auction have languished, particularly in real terms. In both Australia and New Zealand woolgrower dissatisfaction has seen industry reviews and substantial changes in industry structures. The outcomes have varied. All the reviews, including a state-based review in WA, have criticised the traditional commodity marketing approach, of which the wool auction is the major feature, with some 80 per cent of Australia's wool continuing to be sold through auction, and most of the balance through related arrangements. In New Zealand an aggressive marketing program has been introduced and the industry statutory levy arrangements and public good activities wound back. However a large proportion of wool is still sold at auction (mainly in Melbourne). In Australia the *status quo* largely seems to have prevailed.

Despite the efforts of many Australian woolgrowers to initiate joint activities over the past 15 years, many aimed at an improved marketing outcome, examples of the sustainable implementation of a value chain approach are limited. Studies of grower attitudes by the major recipient of levy funds, Australian Wool Innovation, indicate woolgrowers are generally satisfied with the current arrangements. And there has been no attempt by industry leaders to change their minds. Australian woolgrowers apparently are reticent about forward contracts, the main financial benefit of the New Zealand Wool Company model. They also have no appreciation of the social capital benefits, the development of chain skills and capabilities, inherent in the New Zealand scheme. However that attitude does not apply to all Australian woolgrowers, including the 66 woolgrowers of WoolConnect, the case at the centre of this research. Why is that so?

The main purpose of this research is to provide new insights on how a value chain model could be implemented. A review of the related literature aims to identify critical factors likely for successful implementation of a value chain model, and a mechanism for evaluating chain awareness for training and management purposes. Champion & Fearne (2000) examined what supply chain management might mean for the wool industry, focussing in particular on transforming wool, the commodity, into products with intangible consumer benefits. The Australian Wool Education Trust (AWET) evaluated

the experience of Tasmanian Quality Wool (TQW) in undertaking elements of a value chain approach after some years of slow progress as a quality management initiative (AWET, 2006). WoolConnect represents a greenfields site where the development has been primarily initiated and delivered by the participants.

In all such collaborative exercises in the Agrifood sector, the question usually arises as to the motivation that initiates such business innovation among traditional agricultural production businesses. This question is not the focus of this study, although there are many case examples available (DPIE, 1997). However the following scenario introduces WoolConnect and provides an insight to the initiation of the process.

3.2 Case Study Scenario: How WoolConnect was Initiated

John is the president of the local Merino Breeders Association in Boorowa, a district in NSW renowned for its production of fine wool. The Association represents a substantial number of woolgrowers. Its main activity over a number of years has been the annual spring show and sale of Merino ewes and the associated tourist attraction dubbed the 'running of the ewes'. However the members of the Association were increasingly disheartened with the decline in returns for wool since the early 1990s when the industry reserve price scheme had virtually collapsed.

In 1998 John attended a presentation from consultants on the experience of the Tasmanian Quality Wool (TQW) initiative. Here a supply chain development approach fostered under a government business demonstration program had led to the marketing and promotion of TQW branded wool on a range of trousers by the German retailer BRAX. The issue that impressed John in this presentation was the detailed information provided on the mapping of the wool chain from farm to retail shelf. There seemed to be considerable inefficiency and wastage with up to 14 changes of ownership over a typical period of some 22 months.

Over the following weeks, while sowing his annual grain crops, John thought more about the adverse consequences for growers of these inefficiencies in the wool marketing chain. The Association had thought about becoming more involved in wool marketing. From time to time members had heard reports about various woolgrower groups formed to try to take some control of their own destiny. Few groups had sustained their initial enthusiasm in the face of the complexity of the wool processing and marketing chain and the 'silo' mentality of the industry.

Over the coming months the Association's executive agreed with John's recommendation for the Association to obtain more detailed information on the experience of TQW. As a result the executive became eager to obtain some external program support and professional advice to develop a small supply chain pilot. They canvassed some 600 woolgrowers in the local region. A meeting was held to explain the supply chain concept as a business model and subsequently some 60 growers, responsible for an annual production of some 3,000 tonnes of wool, contributed \$500 each to match similar government funding for the pilot.

With some professional support, a detailed and intensive pilot program introduced John to areas of the industry with which he was previously unfamiliar. The Association formed a vision for a demand driven whole-of-chain response to improve commercial performance. John was successful in promoting that vision to key chain partners (topmakers, spinners and garment manufacturers).

The WoolConnect chain initiative, as it came to be called, successfully established a small pilot over a period of three years with a branded hosiery manufacturer as the key customer. The result was superior performance on the retail shelf (particularly with women customers who appreciated the soft, 'non prickle' handling qualities of the socks), and improved net farm gate returns to growers by about 15 per cent. The executive found it needed to play a significant role in the management of the chain from the farm gate, through the processing and delivery of yarn and in building the relationship with the hosiery manufacturer.

The continuing decline of the Australian wool processing sector saw French topmaker Chargeurs (a key chain partner) close its Australian facility, the only Superwash (to reduce shrinkage) facility remaining in Australia. John travelled to China to identify a partner for the continued production of tops and spun yarn for his Australian customers. He has also recently made contact with other Australian manufacturers of woollen products, a number of whom are seeking to differentiate their production from Chinese products on quality criteria. Some of these contacts have discussed the opportunity for innovation by accessing qualities that are not available through traditional auctions or through direct purchase of yarns from spinners.

The stage has now been reached where WoolConnect needs to analyse and evaluate the competitive performance of the chain in the face of new challenges. Is the value chain a viable alternative to the wool auction system? What key factors will support the sustainability of the WoolConnect value chain? How can chain efficiency and effectiveness be improved? How can chain processes be improved?

3.3 Introduction to the Value Chain Framework

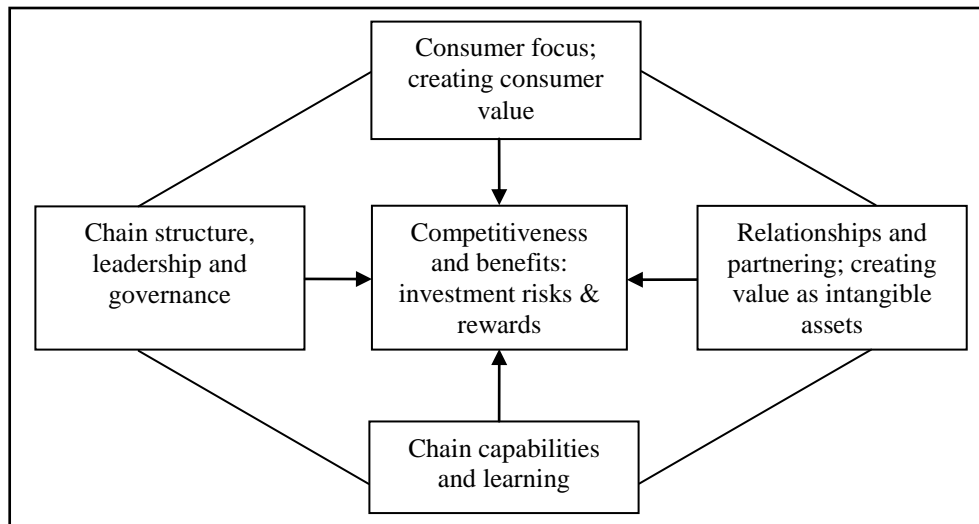
This research aims to provide a conceptual framework to assist WoolConnect and other food and fibre businesses seeking to develop a value chain business model. Recent practice among innovative businesses in the Agrifood sector (ACS, 2002), and the relevant research literature, suggests that the construction of a suitable conceptual model or framework would focus on a number of core competencies (O’Keefe, 2000) across the chain. The conceptual framework proposed in Figure 3.1 provides Agrifood businesses with a model to review how they create, capture and deliver value in an increasingly uncertain marketplace with increasingly discerning consumers of food and fibre products and services. The drive to create value requires the assembling of core capabilities beyond those contained within a single firm (Walters, 2006). The strategic rationale for a value chain involves putting together a network of firms that together can provide a high value market offering to the consumer by leveraging the respective

strengths and competencies of network partners (Christopher, 2000). This involves the development of strong relationships with key partners (Gow et al, 2002; ACS 2002).

The key dimensions in this framework are:

- Consumer focus; creating consumer value
- Chain structure, leadership and governance
- Relationships and partnering; creating value as intangible assets
- Chain capabilities and learning
- Investment risks and rewards

Figure 3.1: The Agrifood Value Chain: A Conceptual Model



(Adapted from “Value Chains: A Project Management and Mentoring Guide”, Agri Chain Solutions, Canberra, 2002)

Porter (1985) introduced the concept of the value chain largely within the context of the individual firm, although he recognised the ‘vertical scope’ of the firm’s value chain with that of its partners. As noted previously, the theoretical domains for exploring chains and networks are broad, including network theory, social capital theory, supply chain management and business economics and organisational theory (Omta et al, 2001). Considerable research has occurred on the management of the physical dimensions of the chain, such as transport, logistics and inventory management, historically the focus of channel management research. Many other areas of business and marketing theory have much to offer to the development of value chain theory (Lambert & Cooper, 2000;

Christopher, 2000; Duffy & Fearn, 2004; Lindgreen, 2001; Mentzer et al, 2000; O’Keefe & Wilson, 2000; Simchi-Levi et al, 2000; Spekman et al, 1998; Walters, 2006).

3.4 Consumer Focus

The transformation of Agrifood businesses from a focus on commodities to a focus on products that satisfy the wants and needs of consumers, or ‘chain reversal’, requires the development of a different set of skills, resources and capabilities (Gow et al, 2002), focussed on the final consumer. An agile supply chain is market sensitive, capable of reading and responding to market demand rather than forecasts. It shares information among chain partners, thereby creating a virtual supply chain which is information based rather than inventory based. It works collaboratively to integrate processes, thereby breaking down the traditional boundaries of the firm; and engages in collaborative networks which leverage the strengths and competencies of network partners (Christopher, 2000). Auctions on the other hand are a barrier to communication between suppliers and their customers, although they effectively coordinate the regular clearance of commodities meeting defined specifications, and where the auction price is the price that clears the market on the day. However auctions do not provide accurate signals about particular attributes of value to other chain partners, such as flavour to consumers, or about particular attributes to processors, such as wool staple length to spinners (Champion & Fearn, 2001).

Spanish fashion company Zara Fashions provides an often quoted example in the literature of an agile supply chain in action. Here cross functional teams (fashion, commercial, retail specialists) at the firm level design garments reflecting the latest fashion trends based on data from a variety of sources including retail electronic point of sale (EPOS) data (Christopher, 2000). Zara raw material sources are world wide, and those with the broadest and least transient appeal are imported as finished goods from low cost sources in Asia. The balance is produced in quick-response (QR) in Europe, both from Zara’s own highly automated factories, where scale economies are important, and a network of some 300 smaller contractors each specialising in a particular process or

garment type. Using manufacturing systems borrowed from Benetton and Toyota, Zara has opted for undersupply, but remains flexible to rapid demand changes (Christopher, 2000; Coughlan, 2006; Walters, 2006).

The literature discussed below suggests that the development of consumer focus requires:

- a market orientation,
- an appreciation of consumer value,
- the ability to develop a winning customer value proposition, and
- identification of opportunities for product differentiation.

The research literature provides insights into each of these areas for potential capability development. Consumer value is the key enabler that drives collaboration between chain partners. It fosters customer focus, business process integration and improved operational and financial performance. Further:

“At the core of customer value creation is the willingness to share information and jointly create knowledge. Collaboration can be more easily sustained if the collaboration is the result of recognising that competitive pressures and marketplace dynamics demand a new, more collaborative business model.”
(Spekman & Caraway, 2006 p18)

This collaborative business model, or value chain approach, involves a ‘whole-of-chain’ systemic approach based on mutual trust and commitment and a shared vision, with joint goals and objectives for the benefit of the customer, not the partnering firms (Spekman & Caraway, 2006).

Market Orientation

To understand customer value one needs to revisit the marketing concept (O’Keefe, 2002), namely, satisfying needs and wants through exchange processes (Kotler et al, 1989). Kohli and Jaworski (1990) identified ‘market orientation’, the “...organisation-wide generation, dissemination, and responsiveness to market intelligence” (Kohli & Jaworski, 1990 p3) as the commercial implementation of the marketing concept. Their

survey of the research literature identified customer focus, coordinated marketing and profitability as the core themes underlying the marketing concept.

In subsequent research among business managers, Kohli & Jaworski (1990) confirmed the findings of their broad literature review, namely, that managers consider customer focus as a core element of a market orientation. Managers also recognised the importance of broad-based market intelligence, not simply verbalised customer opinion. Similarly, they found managers considered cross functional coordinated marketing across the firm was an organisational necessity, but only in relation to market intelligence. However they found that managers saw profitability as a consequence of a market orientation, not a part of it, as their earlier review of the marketing literature suggested (Kohli & Jaworski, 1990).

Recent research by Gebhardt et al (2006) implies that "...market oriented firms fundamentally *are* learning organisations" (p53). Organisations create a market orientation through the development of a set of cultural values (rather than simply a set of behaviours as implied by previous researchers), an organisationally shared market understanding and organisational learning capabilities. For example Slater & Narver (1995) emphasise the importance of market orientation and entrepreneurship in providing the "cultural foundation" (p63) for, but independent from, organisational learning.

"Learning organisations are exceptional in their ability to anticipate and act on opportunities in turbulent and fragmenting markets." (Slater & Narver, 1995 p71)

Gebhardt et al (2006) argue that members of organisations sharing common experiences over time leads to a change in the culture of the organisation reflected in formalised organisational shared market and process "schemas" which

"...enable organisation members to cooperate and collaborate effectively in the process of gathering, disseminating and reacting to market intelligence." (Gebhardt et al, 2006 p53)

Hence creating and using shared schemas is central to the concept of a learning organisation and, ultimately, maintaining a market orientation in dynamic markets

“By continually verifying and updating market schemas over time through shared experiences, market-oriented firms gain more experience with a market oriented culture, and by operating in a market-oriented manner, the culture continues to strengthen while becoming increasingly adept at monitoring and reacting to market changes.” (Gebhardt et al, 2006 p54)

At the value chain level, the Kohli and Jaworski (1990) view of market orientation as the organisation-wide generation of market intelligence about current and future customer needs, dissemination of the intelligence across the organisation and an organisational response, can be extended by defining the market orientation of a value chain. Do food and fibre producers at the farm level require an informed appreciation of the needs and wants of consumers? The same question could be asked about the breeders of new horticultural varieties of fruit or genetic improvement programs by sheep studs.

“If the cropping zone shrinks during global warming, then the Merino is well placed to efficiently and sustainably further occupy this space ... a huge potential exists for organic, chemical-free and healthy rangeland meat and fibre for niche markets ... in terms of resource use, we know that some animals in the Merino genome are more than twice as efficient at converting grass to protein.” (Massy, 2007 p1172)

All chain members should play a part in generating intelligence pertaining to current and future end-user needs, disseminate this intelligence across the chain, and respond on a ‘whole-of-chain’ basis (Grunert et al, 2005). However these activities do not have to be evenly distributed across the chain:

“For example, all intelligence-generation could be concentrated at the downstream level with the retailer, and responsiveness could be concentrated entirely upstream in primary production.” (Grunert et al, 2005 p430)

The notion of identifying, creating and delivering consumer value as a whole-of-chain responsibility is also implied in Gummesson's (1991) concept of the 'amateur part-time marketer' who influences customer relations and revenue without belonging to the marketing or sales department. However, marketing-orientation is a profound and difficult focus to implant in organisations, including mainstream commercial businesses. A similar capability seems a fundamental core competency in an Agrifood value chain.

Understanding Consumer Value

A fundamental question in a value chain context is 'Who is my customer?' Is my customer the next link in the chain, the processor or the supermarket? Or is it the final consumer, the person who ultimately contributes the 'dollar' of which all other chain members ultimately take a share? What is the basis on which the final consumer makes that purchase decision? These questions are critically important for any supplier attempting to differentiate their product in the marketplace and take a place in an organised value chain.

Customer (or consumer) value has been defined in terms of the customer's perception of desirable outcomes in a specific use situation, based on a particular product and service offering, to achieve a desired purpose or goal (Woodruff, 1996). Customer satisfaction then reflects the customer's perception, positively or negatively, of that offering in a specific situation, either immediately or over time. It follows that competitive advantage is the value delivered by an organisation that is perceived by customers as superior to the corresponding value delivered by competitors (Woodruff, 1996).

The notion of value in the mainstream marketing literature is *value in exchange*. For example, this idea is embodied in the phrase 'delivering value to customers' in the American Marketing Association's recent definition of marketing:

“Marketing is an organisational function and a set of processes for creating, communicating and delivering value to customers and for managing customer

relationships in ways that benefit the organisation and its stakeholders.” (As quoted in Gronroos, 2006)

This implies the value is embedded in the product (physical goods, ideas, services) which is delivered to customers for their use. Gronroos (2006) argues, in what appears to be a trans-Atlantic difference of academic opinion, for a *value-in-use* notion where value is created by the customer

“...when using products and when interacting with suppliers in co-creation with them ... Value is not what goes into goods and services, it is what customers get out of them; in other words, value emerges in the customer’s space rather than in the producer’s space ... In the supplier’s processes *value propositions* are developed, whereas *real value* for customers is created in a customer’s value creating processes.” (Gronroos, 2006 p399)

The alternative *value-in-use* definition of marketing, where customers create value by using suppliers’ resources, processes and interactions, shifts the emphasis in marketing from structure to process. It is the customers’ own value creation that fulfils their expectations of the promises made in the value proposition (Gronroos, 2006). Support for this process, as an organisation-wide focus, has implications for traditional organisational marketing structures and structural variables, such as the 4 Ps (product, price, place and promotion), which have underpinned traditional marketing management structured around marketing mix theory. In a relationship management context, the focus of the 4 Ps changes from one of market manipulation to one of market support (Gummesson, 2002).

This contrasting theoretical notion of consumer value creation is fundamentally important in the Agrifood value chain context. Table 3.1 (p61 below) identifies opportunities for product differentiation through the value perceptions of different consumers on a wide range of individual preferences. Producers and other businesses in the value chain with a well developed market orientation and an appreciation of consumer expectations are able

to deliver on the promises in value propositions that support consumer value creation. These opportunities for value creation are difficult to capture, or disappear, in traditional commodity ‘spot’ marketing arrangements, such as the auction.

An illustration of this disjunction between producer and consumer is the recent consumer (and retailer) interest in animal welfare issues, specifically the concern about mulesing of sheep (a surgical procedure to tighten skin across the hindquarters and reduce flystrike), with widespread publicity that potentially places increased value on wool from non-mulesed sheep. Similar issues arise with food safety and environmental issues. Food and fibre producers need to understand, identify and take up value creating activities and communicate that value to consumers through marketing and branding strategies.

“The ‘product’ is no longer merely an item but a whole bundle of values that satisfy buyers – an ‘augmented product’.” (Levitt, 1983 p88)

Customer value proposition

Understanding value leads to the idea of the ‘customer value proposition’. The identification of value-creating customer segments, and the ability to marshal the necessary capabilities across the chain to deliver on these value creating opportunities, also requires a total customer value proposition to which the whole chain is committed (Walters, 2006)

In the case of WoolConnect an early decision was made to identify product attributes valuable to garment manufacturers but not delivered readily through the auction process. Contrary to the usual practice, woolgrowers initiated this process by asking manufacturers what they wanted rather than telling them what specifications were available, the traditional selling proposition of the spinner. This approach engaged manufacturers seeking to enhance their branding opportunities. In the Agrifood value chain context, the value proposition reflects a whole-of-chain promise, a commitment across the chain, which requires an appreciation of the value creating activities of consumers. Examples are provided in Table 3.1. An understanding of, and virtual

integration with, the businesses of other potential chain partners, such as processors, is essential (Christopher, 2000).

Thus the customer value proposition is central to achieving competitive advantage through a business strategy that delivers superior value to customers. However, there is no agreement as to what constitutes a ‘customer value proposition’ or makes the offer persuasive (Anderson et al 2006). The issue concerns the alignment between the customer value proposition and the perceived value for the customer’s value generating processes. Co-creation implies active collaboration between suppliers, who provide resources (goods, services, ideas and information) that support customers’ value creating activities, and customers who can contribute knowledge and skills to suppliers, such as enabling suppliers to improve their quality management and new product development activities (Gronroos, 2006). This is in effect the route chosen by WoolConnect, that is, to support the value creating activities of branded retail product manufacturers to enhance their product ‘story’.

Two years of business management practice research in the USA and Europe provided few examples of value propositions “...that resonated with customers” (Anderson et al, 2006 p92). Accordingly, Anderson et al (2006) developed a categorisation of commercial value propositions into those that:

- a) simply list all the benefits offered to the customer (all benefits);
- b) those that identified favourable benefits relative to their competitors (favourable points of difference); and
- c) those that identified the one or two points of difference, and perhaps a point of parity, to deliver the greatest customer value over time (resonating focus).

The last is seen as the best practice approach to developing competitive advantage by implementing superior strategies. It acknowledges that

“...managers who make purchase decisions have major, ever-increasing levels of responsibility and often are pressed for time. They want to do business with

suppliers that grasp critical issues in their business and deliver a customer value proposition that is simple yet powerfully captivating.” (Anderson et al, 2006 p94)

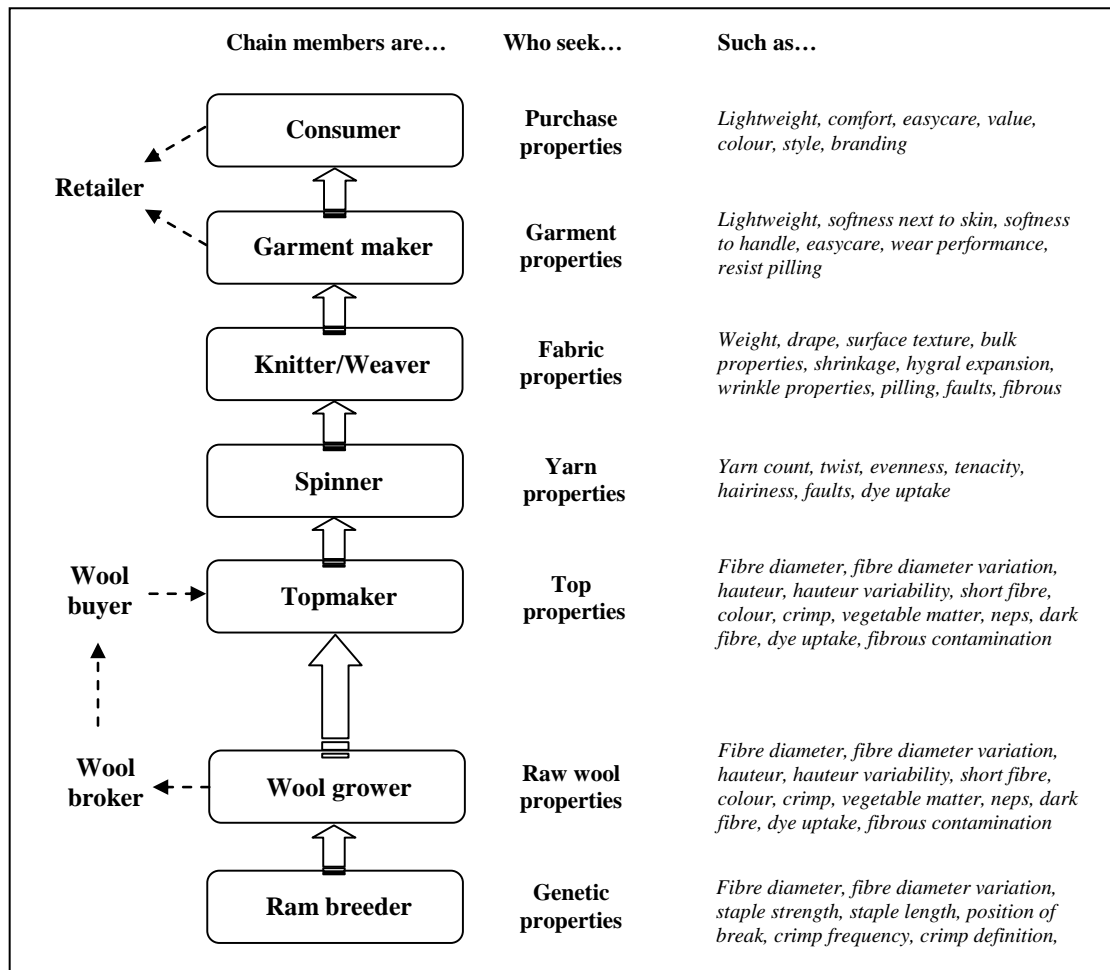
Understanding the customer’s business enables suppliers to identify the few elements that will continue to deliver the greatest value and matter most to target customers. Furthermore, suppliers need to document the cost savings and/or revenues generated, and communicate and demonstrate a sophisticated understanding of the whole chain from farm gate to consumer.

“The suppliers work with their customers to define how cost savings or incremental profits will be tracked, and then after a suitable period of time work with customer managers to document the results. They use value documenters to further refine their customer value models, create value case histories, enable customer managers to get credit for the cost savings and incremental profits produced, and ...enhance the credibility of the offering’s value.” (Anderson et al, 2006 p97)

In a sense Figure 3.2 below demonstrates the customer value propositions at each level of the wool value chain. However the length of the chain adds to its complexity, bearing in mind the geographic spread of processing activities. As indicated elsewhere the elapsed time from shearing to retail shelf is typically 22 months. As the recent AWI report on the New Zealand Merino supply chain business model said:

“The industry can also be characterised as one where few ‘win-win’ relationships have taken place, but rather in which highly fragmented chains and adversarial relationships are the norm. The length and complexity of the wool supply chain is in large part due to the high level of processing/transformation that greasy wool requires and the large number of chain participants.” (TMC, undated pp10-11)

Figure 3.2: The apparel wool value chain



(Diagram amended from Champion & Fearn, 2001 p329 (as adapted from Seaman, 1998b))

When Figure 3.2 is taken in context with Table 3.1 it appears that opportunities abound for cooperation and collaboration to deliver superior value propositions in this chain, in effect to deliver solutions to the next chain partner in terms of the valued product characteristics at each level of the chain, or in WoolConnect terms, across the whole chain. In fact the reverse is the norm. As the TQW experience demonstrated, financial risk is a dominating theme at all levels of the wool chain (AWET, 2003) to the detriment of the sorts of cooperation and collaboration to achieve ‘lean’ (efficient) and/or ‘agile’ (flexible) responses to consumers along the lines outlined with Zara Fashions

Product Differentiation

Levitt (1983) suggested the product offer can be viewed at four levels: the core or generic product (the basic physical product); the expected product (includes minimal purchase conditions, such as commodity specifications, as for the concept of ‘commodity’ defined above); the *augmented* product (providing services and benefits to differentiate the product along the lines shown in Table 3.1); and the potential product (innovative product development to satisfy customers and differentiate the offer).

Table 3.1 Creating Consumer Value: Opportunities for Differentiation

Issue	Food sector	Fibre sector
Product characteristics	Taste; freshness; nutritional; novelty; appearance; packaging	Softness, hang, light weight; cool wools; sports wools; prickle free; wearability
Convenience	Ready to eat	Easy care
Product safety	Food safety and hygiene; traceability; quality control; BSE (mad cow disease); StarLink corn, Asian bird flu	Fire resistance/ retardant; insulation (warmth)
Chemical freedom	Organic accreditation	Organic accreditation
Biotechnology concerns	GMO's (StarLink corn)	BT Cotton
Animal welfare issues	Free range production systems; transport and processing protocols	Mulesing of sheep; live animal trade
Source	Branding; Fair Trade movement; country of origin testimony	Branding; Australian made movement
Health concerns	Low fat (obesity); low GI (obesity, diabetes); functional foods (range of medical conditions); high fibre; low cholesterol;	Health sock; chemical use certification (allergies);
Environment	Low energy or water efficient production systems	Natural product
Quality assurance	Consistent and/ or continuous supply; EuroGAP	Consistency, continuity of supply;
Prices	Consistent prices	Price stability

(Diagram constructed on the basis of a wide range of anecdotal and other evidence from agribusiness conferences, presentations and the media, as well as the literature including Grunert et al (2005); Sporleder & Moss (2002); White (2000); Kuznesof & Brennan, 2004; Goldsmith & Bender (2004); Champion & Fearn (2000); Wilcox (2007))

Another perspective on what might be called a ‘hierarchy of value’ is available for product moving through the food or fibre chain. The generic commodity product can be enhanced by various quality control and assurance parameters and by further differentiation and branding at the retail shelf. Additionally, as the basic physical product

share of the consumer dollar declines, farmers can benefit by capturing a greater share of that dollar by adding services on farm, some of which can be identified in Table 3.1. This table provides examples from the literature of opportunities to differentiate food and fibre products to increasingly discerning consumers. It demonstrates the rationale for a chain based approach in the Agrifood sector where product identity is preserved through the chain (Sporleder & Moss, 2002) as a basis for market differentiation.

Food and fibre products are in the consumer's 'face' every day. Nutrition is a daily concern, as is what one wears and how one appears. Do consumers approach food and fibre purchases similarly? Are consumers and retail or food service industries increasingly concerned about issues of quality, product integrity and safety, environmental and welfare issues and even the 'provenance' of products?

The dynamics of the global Agrifood system drive demands, such as information on food safety, animal welfare, GMOs, and for preserving identity through the chain, all of which is having a major impact on the structure of agriculture (Gow et al, 2002). However:

“For managers to drive value up the chain, producers and life science firms need to shift away from focusing solely on the products of the future. Instead they need to focus and invest in technologies, delivery systems and organisational models that, when bundled with new products solve end-user problems and make end-users more competitive.” (Goldsmith & Bender, 2004 p121)

This introduces the question of the organisation and management of the supply chain. Supply chain management helps to marry the objectives of leanness (efficiency) with agility (effectiveness) to achieve superior competitive advantage across the chain.

3.5 Chain Development and Management

The supply chain concept has become the focus for businesses seeking to respond to ‘turbulent and volatile markets’ (Christopher, 2000 p37). As indicated previously, market orientation is a prerequisite for creating customer value. Companies interact in supply chains in creating value for the end-user, but the competitiveness of the whole chain is determined by the way the various chain members work together to generate intelligence on customer wants and needs to guide their value creating activities (Grunert et al, 2005).

In Agrifood markets the increasing focus on high value, differentiated products is shifting the orientation from the traditional logistics management of material and service flows to redefining channel performance across the chain where the emphasis is on flexibility (Ballou et al, 2000, Christopher, 2000). Modern supply chain management identifies competition on a chain versus chain basis, rather than firm versus firm or product versus product, and success depends on management’s ability to manage an intricate network of business relationships across the supply chain (Gow et al, 2002).

Theory development, however, and the development of normative tools and methods by the academic community, has lagged behind business practice in supply chain management (Lambert & Cooper, 2000). There is a profusion of literature, and yet confusion in meaning, on the subject (Wan et al, 2007). The Global Supply Chain Forum (GSCF) defines supply chain management as

“...the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders.” (Lambert & Cooper, 2000 p66)

Supply Chain Management (SCM) is, and has been, commonly seen as an approach to logistics, transport and inventory management, to improve customer service delivery. The GSCF definition acknowledges the integration and management of business

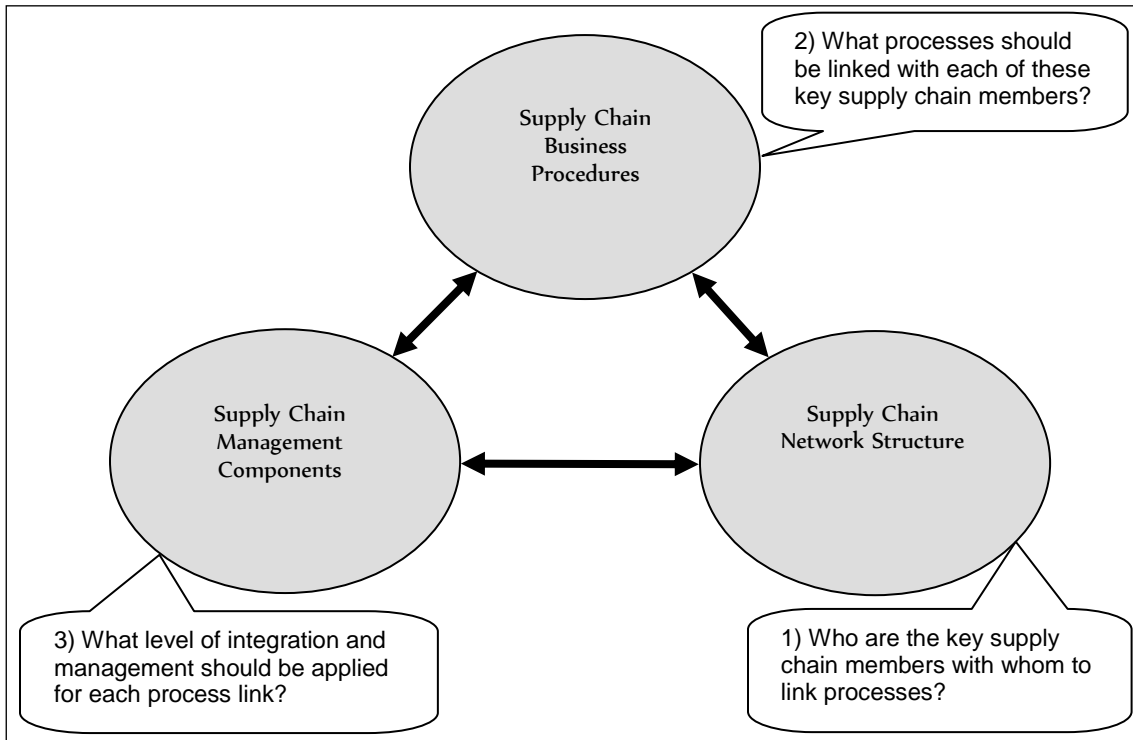
processes, not simply logistics, across the supply chain. Traditional management tools and techniques are no longer appropriate (Ballou et al, 2000). The perspective of managers changes from an intra-functional vision focussed on the individual firm to an inter-functional view focussed on cooperation between firms (Lancioni, 2000). Information technology has enabled a paradigm shift from physical, inventory based supply chains to information based virtual supply chains (Christopher, 2000).

This shift to virtual supply chains is a challenge for management and involves three closely interrelated elements (Figure 3.3): the supply chain network structure; the supply chain business processes; and the management components (Lambert & Cooper, 2000). Thus coordination and integration of key business processes within the firm, as well as across the chain, is required. Mapping the chain to identify the key chain partners, horizontally and vertically, the relevant processes that need to be linked, and the identity and location in the chain of the focal company, or chain manager, is part of this process.

At the enterprise level, Lambert & Cooper (2000) see the changing roles in enterprise functional areas and the emergence of cross-functional teams to develop and market new products. They recognise that process integration and reengineering underpins increased chain efficiency and the effectiveness of the chain, the benefits of which must be equitably distributed. Metrics need to identify inter-organisational benefits, information sharing systems and benefit allocation procedures (Ballou et al, 2000).

For the wool industry, studies and industry reviews quoted throughout this manuscript indicate cross-functional integration at the enterprise level and across the chain appears to be seriously lacking. This situation has a lot to do with the selling arrangements for wool which the Reserve Price Scheme reinforced. However none of this explains why new opportunities have not been pursued since the Scheme's collapse. Part of the explanation lies in the complexity of the wool chain, its geographical spread and perhaps some self interest among key elements of the industry which would have much to lose in a more disaggregated business, or chain, structure where some roles would become redundant.

Figure 3.3: Supply Chain Management Framework: Elements and Key Decisions



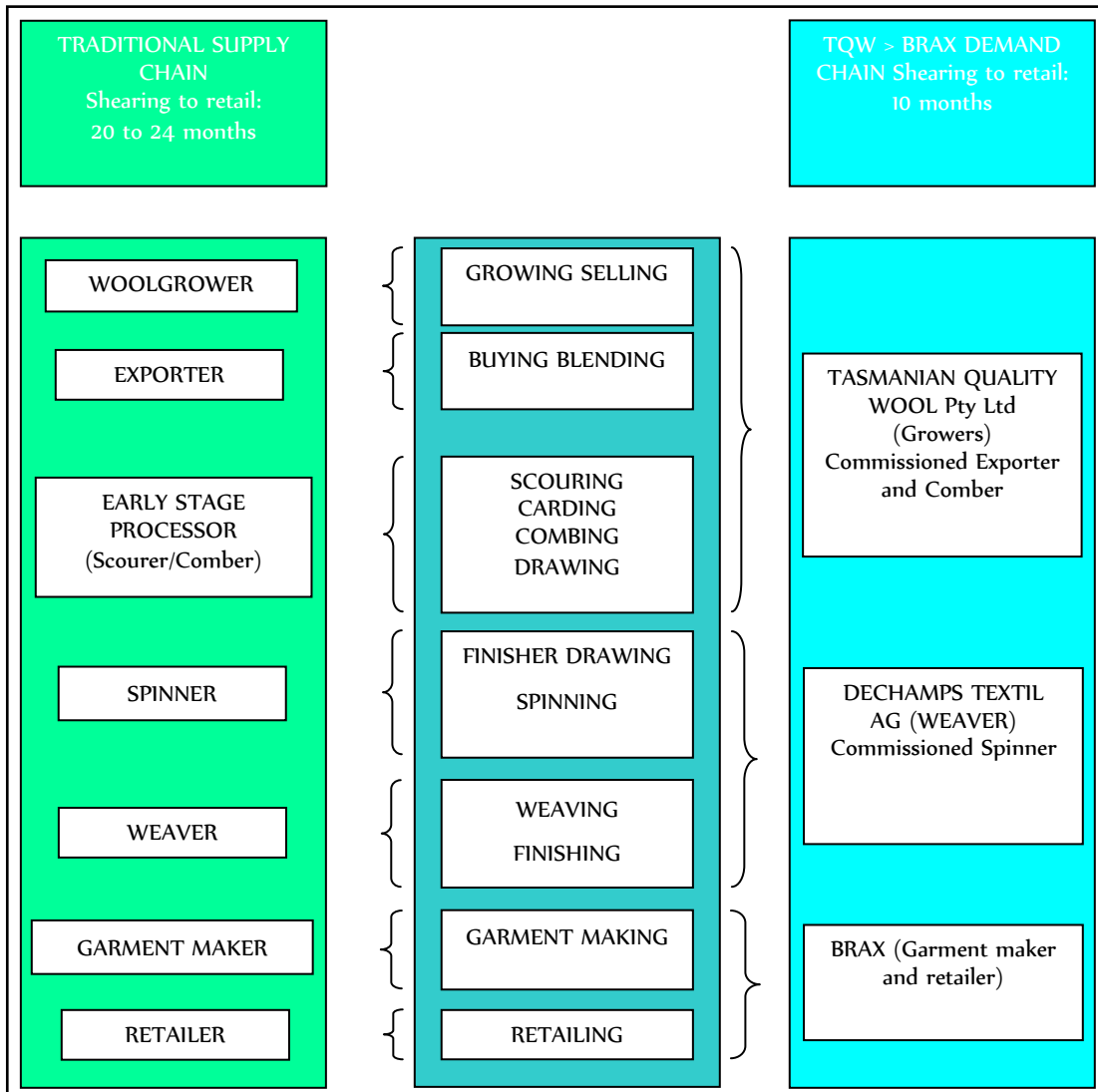
(Adapted from Lambert & Cooper, 2000 p65)

A number of additions have been built on SCM to meet market segmentation requirements. For example the development of ‘lean thinking’, or doing more with less by identifying and eliminating waste, reducing inventories and lean manufacturing practices, has been a strong focus in the retail grocery sector. In this sector low prices are a priority for high volume products whose demand is predictable, and where product variety is limited. Agile supply chains, on the other hand, are characterised by flexibility (Coughlan et al, 2006; Christopher, 2000).

“Agility is a business-wide capability that embraces organisational structures, information systems, logistics processes, and, in particular, mindsets. A key characteristic of an agile organisation is flexibility ...the ability of an organisation to respond rapidly to changes in demand, both in terms of volume and variety [where] the market conditions ...are characterised by volatile and unpredictable demand.” (Christopher, 2000 p37-38)

Views on SCM originating from the logistics research community tend to focus on the supply side, reflecting their origins in marketing channel theory where the focus is on meeting customers' service output demands (discussed below). This is an appropriate place to return to the wool supply chain. Figure 3.4 shows how TQW (Tasmanian Quality Wool) is an initiative that sits with the New Zealand Merino Company as an example of supply chain innovation.

Figure 3.4: Supply Chain Redesign: Tasmania to BRAX Germany



(Adapted from AWET, 2006 p7)

The TQW initiative was originally designed to improve supply efficiency under the Australian government's Supply Chain Development Program. But the project also came

to appreciate that a demand chain orientation, mainly through increased chain transparency, could develop brand equity for Tasmanian wool and attract a brand premium. The wool industry marketing body, the Woolmark Company, also helped with promotion and support costs. The project lasted three years from 1999-2002 but was discontinued following the German retailer's decision to focus on cotton trouser lines. As Figure 3.4 illustrates, the project successfully reduced the original seven stages of ownership to three, cut delivery time (shearing to retail shelf) from 20-24 months to 10 months, provided a premium to woolgrowers over the spot market, reduced weaving costs and provided retail brand equity (AWET, 2006).

From a supply chain management perspective, Figure 3.4 demonstrates the inefficiencies in the traditional wool chain. It is complicated by the many processing stages (centre column), some of which typically can be performed by the same processor, but many changes of ownership are possible. Financial risk management costs are introduced at each change of ownership. The volatility of wool market prices introduces additional financial risk management issues as does the substantial inventory holding costs for the traditional chain shown on the left hand column. The TQW woolgrowers came to realise, however, the degree to which early stage processing is price sensitive, relying on substantial economies of scale. Projects seeking to achieve brand premiums need to account for the costs of processing smaller quantities of raw wool. Woolgrowers designing such premium projects need to create a market offer with characteristics that are unavailable or not readily identified through the traditional auction and processing system (AWET, 2006).

As previously indicated, the WoolConnect initiative, the case study for this work, arose from the desire of 66 woolgrowers to find an alternative to what they saw as industry failures. They felt there was inadequate industry leadership in addressing these failures. Specifically, they saw inefficiencies in the wool marketing and processing supply chain (the auction processes, multiple changes of ownership as the product moves through the processing chain, long cycle times, and multiple inventories), a lack of transparency in the chain and a failure to take advantage of modern communications.

The Marketing Channel: Customer Service Delivery

Supply chain management and its increasingly sophisticated refinements (demand or value chain management, efficient consumer response, quick response, lean thinking, and ‘Triple A’ (agility, adaptability, alignment) have their roots in channel management.

“What was once considered the last frontier of cost reduction in 1965 has now become the new area of profit and growth for businesses.” (Lancioni, 2000 p1)

The marketing channel becomes the focus of attention when producers of raw materials, on the farm or elsewhere, seek to engage with chain partners beyond the farm gate. The marketing channel provides the means to meeting customers’ service output demands and is defined as “...a set of interdependent organisations involved in the process of making a product or service available for use or consumption.” (Coughlan et al, 2006 p2)

Channel theory identifies a series of essential marketing flows that are performed by channel intermediaries, or chain partners on a whole-of-chain basis, which serve to add value and/or reduce costs, and which are critical to any channel, irrespective of the chain relations or format. Coughlan et al (2006) identify these essential flows (and associated costs) as:

- physical possession (storage and delivery costs);
- ownership (inventory carrying costs);
- promotion (personal selling, advertising, sales promotions, publicity, PR);
- negotiation (time and legal costs);
- financing (credit terms, terms and conditions of sale);
- risking (price guarantees, warranties, insurance, QA, claims, after sales service);
- ordering (order processing costs); and
- payment (collections, bad debt costs).

Coughlan sees information flow as permeating all the above activities and affecting the ways they are performed and by whom (associated costs in data collection and processing). Each of these process flows can be related to the example of TQW in Figure

3.4 and the potential for efficient chain management to reduce costs across the chain for each business involved. An appreciation of the flows is essential for mapping the chain, to better understand who adds what value at what cost, and for subsequent chain redesign.

For management, the marketing channel challenge is to design the right channel for selected customers through market segmentation, the choice of target customers and the efficient creation of appropriate channel service outputs. This design involves channel structure issues (the nature, number and identification of channel intermediaries); how the workload is split; the degree of commitment; and analysing the gaps. Implementation of the design requires an understanding of each channel member's sources of power and dependence, understanding the potential for channel conflict and of how this will be managed (Coughlan et al, 2006). Modern supply chain management involves *process integration* between collaborating supply chain partners where:

“Companies focus on managing their core competencies and outsource all other activities ...A new style of relationship is essential. In the ‘extended enterprise’ ...there can be no boundaries, and an ethos of trust and commitment must prevail.”
(Christopher, 2000 p39)

As an extension of the earlier discussion on consumer value, from a channel management perspective, consumer purchasing decisions are a trade-off between routine choices, based on product attributes, and service outputs, at an acceptable price, which provide the greatest satisfaction. One of the basic precepts of marketing is that a seller should seek to identify and meet the needs of targeted end-users by producing the service outputs demanded. Six service outputs can be identified which cover the major categories of end-user demand for different channel systems, as follows:

- bulk breaking (smaller lot sizes);
- spatial convenience (travel and search time to obtain product);
- waiting time (or quick delivery);
- product variety (breadth and depth of product offering; variety and brands);
- customer service (easing the shopping and purchasing process);
- information provision (product education, labelling, etc) (Coughlan et al 2006).

These service output considerations effectively design the retail format through which the final consumer products are marketed. Chain participants must appreciate the nuances of various retail formats under which products are marketed. For example, category management considerations can target specific consumer retail categories in the food sector such as 'gourmet' or 'organic' or general end-use categories like 'baby products'.

Supply Chain Management: The Marketing Focus

Supply chain management as a concept linking channel management and marketing grew out of the consulting industry in the early 1980s (Coughlan et al, 2006; Lambert & Cooper, 2000) where the focus was on logistics, principally transport and inventory management, across the whole value-added chain, with the focus on meeting customers' service output demands. Christopher (1998) defines supply chain management as

“...the management of upstream and downstream relationships with suppliers and customers in order to create enhanced value in the final market place at less cost to the supply chain as a whole.” (See Juttner, 2007 p377)

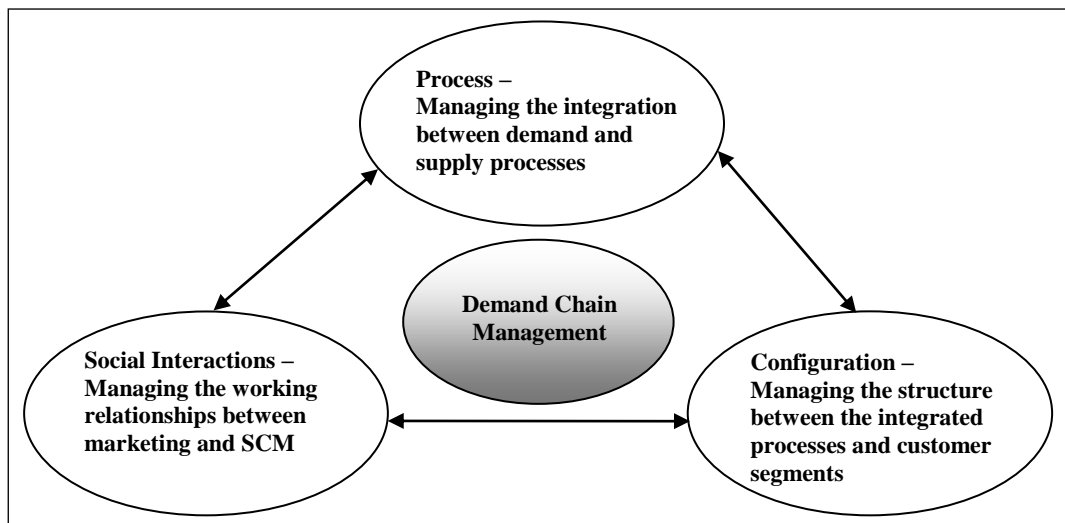
The guiding principle of SCM is to unify production and information flows up and down the production and distribution chain. It involves customer orientation, effective channel management and effective logistics (Coughlan, 2006). The literature emphasises the need for an integrated approach to SCM and marketing when the connection between the supply side and the demand side is weak.

“In today's markets understanding the customer's situation and responding effectively to differing needs through the coordination of marketing and SCM can be a source of superior customer value creation.” (Juttner, 2007, p389)

The literature frequently identifies cross-functional relationships between SCM and marketing, particularly at the enterprise level, acknowledging that efficiency issues, principally in logistics (inventory management and transport), drive the agenda, whereas marketing is focussed on creating superior customer value. Demand chain management

(DCM) has been proposed as a new business model to combine the strengths of SCM and marketing, where the design of the chain is based on thorough knowledge of the market and the needs of specific customers. Demand chain management involves (Figure 3.6) integration between demand and supply processes, management of the structure between the integrated processes and customer segments and managing the working relationships between marketing and SCM (Juttner, 2007; Lee, 2001; Walters, 2006).

Figure 3.6: A Conceptual Framework for Demand Chain Management



(Adapted from Juttner et al, 2007 p382)

The differences between a supply chain focus (which is cost led) and a demand chain focus (seen as a broader view of relationship management, recognising the overlaps and the need to integrate supply chain management and marketing) are matters of emphasis (Walters, 2006). Modern retail practice and performance in the highly competitive food and fibre sectors shows that an overriding emphasis on *efficiency* ('every day low prices') may obscure the achievement of *effectiveness*, particularly in meeting customer needs.

The successful implementation of a demand or value chain orientation in the fine wool industry, as with the New Zealand Wool Company, Escorial and TQW, has seen a key strategy being an association with prominent, high value international brands. Such a strategy relies on the market orientation of the brand and its associated equity with the consumer to deliver superior value.

The *supply* chain management focus is to improve chain *efficiency* and remove costs partly through communication and cooperation to streamline transparency and channel flows. The *value* chain focus involves *collaboration* between chain partners to achieve innovation and growth to enhance competitive advantage in the market, *effectiveness*, with consumers. From a traditional industry perspective, relationships between buyers and suppliers along the chain are essentially transactional and reflect their relative bargaining power. The value chain approach raises the possibility of richer and closer relationships with committed buyers and/or suppliers. These relationships can be seen as assets of the firm ultimately improving cash flow.

Gow et al (2002) draw attention to two aspects of value creation:

- the *performance* gap, optimising performance through operating efficiency, which agribusiness has traditionally been extremely effective at exploiting, and
- the *opportunity* gap, exploiting opportunities for new product, market or business development.

“However, agricultural firms have struggled to exploit the opportunity gap, as this often requires a re-direction of the firm’s energies towards a new strategic intent. This in turn may require a different set of skills, resources, and capabilities to the firm’s existing core competence.” (Gow et al, 2002 p19-20)

3.6 Relationship Development and Management

Managing a business in today’s competitive era involves managing strong collaborative partnerships (Spekman & Carraway, 2006). Relationship marketing reflects the change in marketing focus from attracting customers to customer maintenance, trying to create customer loyalty and establish a mature long term stable relationship (Ravald and Gronroos, 1996). Providing superior customer value, principally by adding value to the core product through quality control and additional services, is what achieves customer loyalty. But added value must be aligned with customer needs. If the value added increases the customer’s perceived benefit and/or reduces the customer’s perceived sacrifice then the relationship costs are minimised and customer performance is

improved. Customer perceived value depends on the different personal values, needs and preferences and the financial resources of the consumer. To understand customer perceived value fully, the buyer's value chain needs to be fully evaluated to ensure delivering the correct value providing benefits (Ravald & Gronroos, 1996). Ravald & Gronroos (2006) argue the *relationship* value of the offering, the value of the commitment from both parties, also influences the customer's perceived value.

The path from purely transactional to collaborative relationships among trading partners, despite the business evidence of the commercial benefit, is often hindered for a variety of reasons. Transactional exchanges require low personal investment or commitment whereas relational exchanges often involve high personal and financial investment. This investment is often tied to social exchanges involving personal and business ties and the 'spirit of the relationship'. Further, market focussed businesses are dedicated to understanding their customers, and demonstrating their strong market orientation with cross-functional collaboration. All of this leads to adaptation and evolution and organisational learning. The literature strongly supports the complementary nature of market orientation and relationship marketing in providing the basis for collaboration between trading partners (Spekman & Carraway, 2006; Jarratt, 2004).

“As learning organisations have close relationships with other organisations located vertically and horizontally along their own and related value chains, it is likely that an efficient and effective relationship management capability would be critical for their growth.” (Jarratt, 2004 p304)

This discussion is at the heart of any attempt to develop a value chain approach in the wool industry, an industry considered 'antiquated' in its selling systems. Recent industry reviews in NZ (McKinsey) and Australia (Wool Task Force) acknowledge the need for woolgrowers to communicate with their downstream customers on raw wool quality issues, both 'hard' issues along the lines identified in Figure 3.2 (such as contamination and fibre diameter variation), and 'soft' issues as identified in Table 3.1 (such as origin and management issues). The study of the New Zealand Merino Company business model showed Australian growers were reluctant to change to a system they did not

understand. Vertical chain members accepted the benefits of a more demand oriented approach but were unwilling to work with woolgrowers, and the retail end of the chain was, if anything, more sceptical.

Yet Champion & Fearn (2001) provided a different perspective, and attributed inadequate communication among chain members as an impediment to competitive performance, in an industry operating in functional silos, and where chain members were reluctant to look outside their sectional interests.

“...[T]he apparel wool industry needs to cooperate to compete in dynamic, global markets increasingly dominated by synthetic fibres, in which vertically coordinated supply chains are the norm, auctions non-existent and communication is seen as a strength rather than a weakness.” (Champion & Fearn, 2001 p237)

A tension clearly exists between the various reports and studies demonstrating the potential for improvement, largely by moving the wool industry from a production to a market orientation, on the one hand, and grower reluctance to innovate, on the other. Moreover, few concrete ideas have been detailed as to how change could be achieved effectively and efficiently, given the record of failed attempts to add value to wool in one way or another, even in the face of apparent success with initiatives such as the New Zealand Merino Company (Champion & Fearn, 2001; TMC, undated). The gap appears to be in defining how appropriate learning initiatives to develop chain skills and capabilities among willing woolgrowers can be developed through successful, if modest, initiatives. This study seeks to bridge that gap by case research on the experience of the WoolConnect value chain.

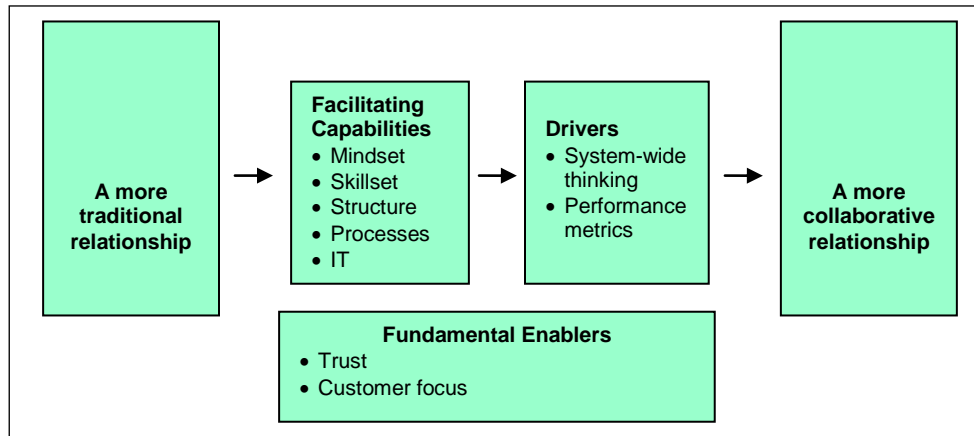
In proposing a framework (Figure 3.7) for the transition from transactional to collaborative marketing relationships capturing elements critical to the transition process, Spekman & Carraway (2006) identify three necessary categories of competencies and capabilities:

- *facilitating capabilities* (mindset; skillsets; structure; processes and information technology);

- *drivers* (system-wide thinking; and performance outcomes and measures, both traditional measures and extended enterprise measures); and
- *fundamental enablers* (trust and customer focus).

This is a comprehensive framework for which the “...most critical piece of the puzzle is the people and their ability to embrace change.” (Spekman & Carraway, 2006 p17) This framework coincides with the broad elements identified from field experience with many demand chain development projects under the Food and Fibre Chains Program (Agri Chain Solutions, 2002). The main elements identified after assessing, monitoring and evaluating some 60 field projects were: *customer focus, capability development, chain development and management, relationship development and management, and monitoring investment risks and rewards*. These elements align strongly with the Spekman & Caraway (2006) competencies and capabilities.

Figure 3.7: From Transactional to Collaborative Business Relationships



(Adapted from Spekman & Carraway, 2006 p12)

Lindgreen et al (2006) developed a similar relationship management assessment tool as a practical basis for enabling managers to “...question, identify and prioritise critical aspects of customer relationship management” (transactional/relational) and to shift between them. Their model, which has guided this study, followed a comprehensive literature review of the key views of relationship management, characterised as the

Industrial Marketing and Purchasing (IMP) group (eg Ford, 1990), the Nordic school (eg Gummesson, Lehtinen, and Gronroos, 1997) and the Anglo Australian approach (Payne, 1995), summarised as follows:

Table 3.2: Comparison of main components of major schools of relationship marketing versus transaction marketing

Key component	Transaction marketing	IMP group	Nordic school	Anglo-Australian approach
Basis	Exchange 4 Ps	Relationship between firms	Service	Service/quality/marketing
Time Frame	Short term	Short and long term	Long term	Long term
Market	Single, customer	Multiple, network	30 markets with four categories	Six markets
Organisation	Hierarchical functional	N/A	Functional and cross-functional	Cross-functional process based
Basis of exchange	Price	Productive, information, financial & social	Less sensitive to price	Perceived value
Product/quality dimension	Product/technical/output quality	Technological	Interaction quality	Function of value and cost of ownership
Measurement	Revenue market share	Customer profitability	Quality, value, customer satisfaction	Customer satisfaction
Customer information	Ad hoc	Varies by relationship stage	Individual	Customer value and retention
Internal marketing	N/A	N/A	Substantial strategic importance	Integral to the concept
Service	Augmentation to core product	Close seller-buyer relations	Integral to product	Basis for differentiation

(Lindgreen et al, 2006 p58)

This summary demonstrates the alignment between the theoretical development of relationship management and the development of chain relationships, through the contrast with traditional transactional marketing theory, and also by drawing on theory on strategic alliances, as outlined in Table 3.3 (below). Lindgreen et al, (2006) used this theoretical summary to develop their assessment tool, using an approach similar to the general approach adopted in this thesis, although more detailed in terms of the particular case where it was applied in the automotive industry. The ten elements they identified to assess customer relationship development in the automotive case were:

1. *customer strategy* (customer segmentation and valuation);
2. *customer-interaction strategy* (how an organisation interacts with customers and how it delivers goods and services to them);
3. *brand strategy* (which describes what an organisation's brand stands for, its identity and actions);
4. *value creation strategy* (how to create and deliver value to customers and maximise customer lifetime value);
5. *culture* (customer satisfaction depends on a customer oriented culture);
6. *people* (to achieve excellent business performance and relationship with valuable customers, the organisation must have knowledgeable, skilful, and motivated employees and teams);
7. *organisation* (high degree of cross functional collaboration, organisation wide customer orientation and flexible, or agile, response to customers);
8. *information technology* (to support the implementation of the various customer oriented processes, to facilitate communication and to integrate this information in their core processes);
9. *relationship management processes* (monitoring, evaluation and metrics to support continuous improvement organisationally to maintain customer satisfaction); and finally,
10. *knowledge management and learning* (knowledge management combines knowledge creation, knowledge sharing and knowledge application processes).

Managing Alliances for Success

Alliance management and performance has been a research focus for many years, although there are many gaps in understanding including an appreciation of what makes alliances, including supply chain alliances, succeed (Lambe et al, 2002; Duysters et al, 2004; Christopher & Juttner, 2000; Lindgreen et al, 2006). Strategic partnerships and alliances have multiplied enormously over the past decade. More than 20,000 new alliances were formed between 1987 and 1992 in the USA alone, and nearly 6 per cent of revenue generated by the top 100 US firms now comes from alliances, a fourfold increase from 1987 (Spekman et al, 1996 p 346; quoting a Booz Allen and Hamilton 1994 study). Duysters et al, (2004) refer to the 'alliance revolution' since the early 1980s, with alliances in technology growing from "...a thousand a year to almost 10,000 per year" from the mid-eighties to 2000. Alliances span every aspect of corporate activity (Spekman et al, 1998), although a high proportion (reportedly up to 70 per cent) are not successful (Lambe et al, 2002). There are numerous contexts for alliances (including buyer-seller relationships, channel partnerships and joint ventures) and a range of

academic perspectives from which to research alliances. Supply chain partnerships to gain access to or create markets and to facilitate learning are a means for coping with uncertainty, to reduce costs and improve performance.

Spekman et al, (1998) closely reviewed the academic literature and generally defined a strategic alliance as

“...a close, long term, mutually beneficial agreement between two or more partners in which resources, knowledge, and capabilities are shared with the objective of enhancing the competitive position of each partner.” (Spekman et al, 1998 p748)

They identified five broad research themes, namely: *the rationale for alliance activity; how to form alliances; how alliances create value; the organisational dynamics of an alliance; and sources of tension in an alliance*. Further, they identify an alliance life cycle (Table 3.3) with discrete stages (anticipation, engagement, valuation, co-ordination, investment, stabilisation, decision) recognising there is a flow between the respective stages, each with key activities and differences in managerial alliance behaviour.

As Table 3.3 indicates, and according to Spekman et al (1998),

“...an alliance is a dynamic interaction of business and interpersonal activities whose purpose is to achieve mutually beneficial goals ...Each phase is characterised by a set of relationship development questions/ issues, ...Concerns relate to getting to know your partner, developing commitment and trust, managing conflict and learning to manage in an ambiguous authority structure.

Business and relationship activities work together. Each supports the other and the full strength of the alliance is dissipated when attention is diverted from either component.” (Spekman et al, 2008 p762-763)

Table 3.3: Differences to be found over alliance life cycle stages

	<i>Anticipation</i>	<i>Engagement</i>	<i>Valuation</i>	<i>Co-ordination</i>	<i>Investment</i>	<i>Stabilisation</i>	<i>Decision</i>
Characteristics of life Cycle stage	Pre-alliance Competitive needs and motivation emerge	High Energy Complementarity Congruence Strategic potential	Financial focus Business cases Analysis Internal selling	Operational focus Task orientation Division of labour Parallel activity	Hard choices Committing Resource reallocation Broadening scope	High interdependence Maintenance Assessment of relative worth and contribution	Where now?
Key business activity	Partner search	Partner Identification	Valuation Initiating	Co- ordination Interfacing	Expansion Growth	Adjustment	Re- evaluation
Role of alliance manager	Visionary	Strategic sponsor	Advocate	Networker	Facilitator	Manager	Mediator

(Adapted from Spekman et al, 1998 p761)

This life cycle analysis is a key concept in the overall framework and the related management tool for food and fibre alliances will be discussed in Chapters 4 and 5. Such alliances typically have a structure, also referred to as netchains, where many producers form a network to ensure consistent supply (quantity and quality) to meet the needs of processors or packers in the vertical chain, and even the supply of finished products to a large number of retail outlets. Typically the producer stage involves the key decision-maker in the business, whereas the processing and perhaps retail stages involve large organisations with alliance responsibility vested largely in management personnel.

Alliance Management and the Chain Manager

Alliance management is complex because an alliance brings together organisations with different cultures, perceptions and objectives. The chain manager's role is critical for effective alliance management as it becomes the focus for achieving the desired outcomes at the various stages of the alliance life cycle. This role includes the early phase formulation and articulation of the idea, usually as the chain or alliance champion; networking to secure commitment and participation of key organisational players; managing and overseeing the ongoing operation of the alliance; mediating conflicts between alliance partners and generally shifting the management agenda in accord with the evolution of the alliance. Alliance managers differ from line managers in having a

broad-based range of skills and competencies and interpersonal skills (Table 3.4) together with an ‘alliance mindset’ or way of thinking that accentuates creativity and learning, with skills and competencies that contain both teachable and unteachable elements (Spekman et al, 1998).

The alliance manager plays a key role in developing and implementing a value chain model. For the New Zealand Merino Company, the brand development of New Zealand Merino and the subsequent development of the alliance between NZ woolgrowers and the brokers, PGG Wrightson appears to provide the unique skills and capabilities to develop and manage the alliance. The chain manager is a major consideration in the research into WoolConnect.

Table 3.4: Alliance Manager Characteristics

‘Unteachable’ competencies		
<i>The alliance perspective – good managers ‘think’ and ‘see the world differently’</i>		
Willing to change self to accommodate others		Virtual thinking
Willing to consider other person’s point of view		Optimistic
Simultaneously consider multiple points of view		Clever and creative
Learn from past but are not constrained by it		Eager to embrace other cultures
Willing to take losses in return for future gains		Pragmatic
		Vigilant
		Questioning
‘Teachable’ competencies		
Functional	‘Earned’	Interpersonal
Line skills	Credibility and respect	Social skills
Staff skills	Extensive networks:	Process skills
Educational background	– organisational	Tact/sensitivity
General business knowledge awareness	– alliance	Cross-cultural

(Adapted from Spekman et al, 1996 p354)

The study of the WoolConnect chain has a ‘point of time’ component to the research as well as a ‘stage of the life cycle’ component because of personal involvement with the case over some six years. Clearly WoolConnect is a dynamic chain in the process of continued development. Spekman et al (1998) advocate longitudinal research methods to evaluate the changes in strategic intent, objectives and expectations of alliance

participants. They argue a greater research focus is required on concepts and measures of alliance management and the interaction between alliance managers and other individuals. Such research is all the more needed in the case of multiple firm alliances or networks, where substantial gaps exist in the literature. Since alliances are a response to uncertainty, periodic and timely reviews are necessary to identify potential conflicts, misperceptions and issues of concern so as to keep the alliance healthy as it moves through the stages of its life. Firms need to learn from their alliances and spread that knowledge throughout the organisation.

Spekman et al (1998) believe practice and research has not adequately addressed the skills and experience required for alliance managers.

“It is clear to us that it is risky to promote a successful line manager into a critical alliance manager position. Alliance managers represent to us the best of the learning organisation (see Senge, 1992). They possess skills and have a perspective that transcends the capabilities to be a good line manager. They are masters of the informal network.” (Spekman et al, 1998 p768)

3.7 Alliance Competencies, Capabilities and Organisational Learning

The recurring theme in this study is the struggle for many in the Agrifood sector to move from a traditional static commodity based business, essentially pushing homogeneous products through spot markets, to one focussed on a more consumer demand-driven market requiring differentiated products, continuous process innovation and highly specialised product delivery and customer support systems (Gow et al, 2002). Confronting these changes and capturing value in highly uncertain marketplaces requires a different set of skills, resources and capabilities from the commodity firm’s existing core competencies. It begins with ‘strategic intent’, establishing an aspirational level involving innovation in the way the firm competes by creating a ‘misfit’ between current

resources and ways of using resources. This ‘misfit’ is achieved through exceeding the firm’s current resources and capabilities and through ‘leveraging’ intra-firm resources against those of others to create new core competencies (Hamel & Prahalad, 1996).

“The very essence of competencies is that they often include an intangible component, such as tacit knowledge of personnel; this makes them difficult to imitate or trade in the market place.” (Gow et al, 2002 p21)

Capabilities (repeatable patterns of action in the use of assets to create, produce and deliver offerings) become distinctive competencies when they create value for the chain in ways competitors have difficulty imitating (Gow et al, 2002; Blois & Ramirez, 2006). The basic tenet of resource-based theory is that firms compete on the basis of their resources and capabilities (Bryan, 2004). In the 26 years since Levitt (1980) argued businesses needed to augment their products, Blois & Ramirez (2006) agree this remains an effective strategy for product differentiation using new or existing capabilities, but such capabilities can also add value for customers.

Social capital research provides insights on the development of capabilities between businesses involved in relationships and networks where the focus is on creating and sharing knowledge (Walter et al, 2007). Knowledge management reasoning applied to the US food industry, typically characterised by weak ties and sparse relationships, demonstrated that accumulated intangible assets, such as category leading brands, could change the fundamental characteristics of the supply chain, such as high embeddedness, high social capital, more easily exchanged tacit knowledge, higher levels of trust and the limitation of opportunistic behaviour (Sporleder & Moss, 2002). The development of social capital is demonstrated in the New Zealand Merino Company model as one of the non-financial benefits of the contract model forming the basis of that chain.

“Traditionally merino growers have had no direct linkage to the purchasers of their wool and have only been able to identify the exporter who undertook the auction transaction. Export market and end product ‘destination’ have typically

been unknown. In contrast, the contract model forms a direct link between growers and retail brands, which allows growers to strongly identify with and feel a sense of connection to the contracted retail brands and manufacturers. In effect, the wool contract becomes a vehicle for a range of other communication activities.” (RMSG, undated p155)

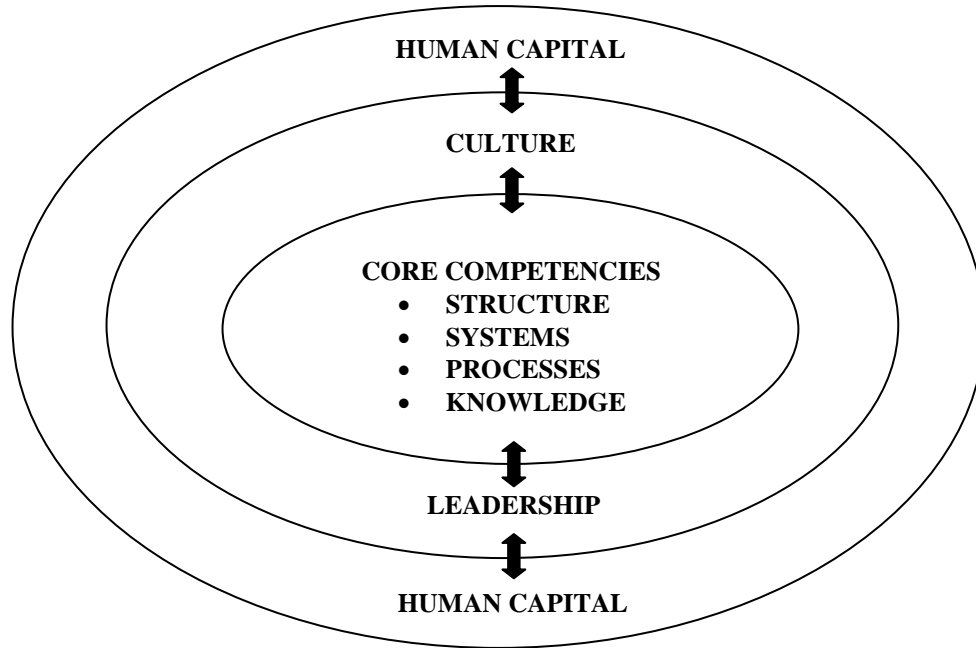
Collins et al (2002) focus on the way members of alliances, especially members of food and fibre chain alliances, can learn from one another to create competitive advantage. Product and financial flows in chains are linear (Figure 3.9), whereas relationships in chains, often involving more than two chain participants, are non-linear and may exist in clusters or nodes which are, in effect, centres of learning (Figure 3.10). As a result chain partners develop knowledge and capabilities that are sources of competitive advantage which are captured in the intangible assets of the firm. These can be viewed (Figure 3.8) as a core of processes, systems, databases and structures that are under the control of management, surrounded by an outer layer of human resources that are influenced but not directly controlled by management. Mediating between the core and the outer layer is the organisation’s culture and leadership which influences the organisation’s ability to *capture* new learning or *leverage* its intangible assets for competitive advantage through relationships developed by the organisation’s human relationships (Collins et al, 2002).

To return to the New Zealand Merino Company model, the way in which woolgrowers are able to relate to their brand partners through regular feedback workshops demonstrates how the ‘locus of value’ enables the development of skills and capabilities across the chain reinforced through the development of social capital across the chain.

“This change has been dramatic in that now it is common to hear a grower refer to themselves as an ‘X Grower’ or a ‘Y Grower’ and as being part of the ‘Y Club’ where Y is a retail brand purchasing their raw material requirements via NZM under long term forward contract. This self identification illustrates the strength of growers’ association to the end users of their fibre and can translate to a desire to improve raw wool quality and farm management practice. As a result, the implications of the contract model can be far reaching and provide opportunities

for the targeting of other peripheral communication and technology transfer/extension programs.” (RMSG, undated p155)

Figure 3.8: The intangible assets of the firm



(Collins et al, 2002 p319)

On the one hand the organisation aims to *capture* the knowledge and expertise held by its employees (tacit knowledge) within its own structure, systems, processes and databases which together represent the accumulated captured experience of the organisation. In the other direction the aim is to *leverage* these systems across the whole organisation. Therefore value chains are about capturing strategic information as a result of preferential relationships with other firms in the chain and incorporating this knowledge into the internal processes of the firm. As indicated above, leadership and culture, which are partly, if not totally, under the control of management, mediate the flows between these different classes of soft assets. Culture can act as a brake on the capture and leverage flows, hindering the competitiveness of the firm. It is these mediators which determine flow velocity and hence agility and competitiveness. It is management’s ability to mould the culture of the firm, and to transform it from a command and control to a dispersed

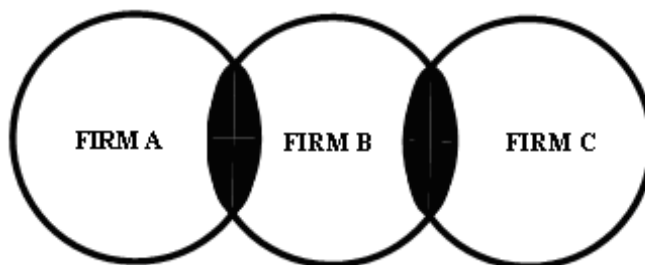
leadership approach, that really determines the capture and leverage processes (Collins et al, 2002; Agri Chain Solutions, 2002).

The representations in Figures 3.9 and 3.10 also serve to illustrate the conceptual leap from the preferred supplier relationship to a value chain relationship. Many of the dyadic buyer-supplier relationships referred to in the research literature are represented by the preferred supplier or strategic partnering relationship, such as the Proctor & Gamble relationship with Wal-Mart in the grocery sector, or the Li & Fung relationship with The Limited in the fashion sector (Walters, 2006). Perhaps the New Zealand Merino Company model warrants greater attention from the research community in extending the value chain model as this research seeks to do with WoolConnect. In strategic partnering the discrete inter-firm boundaries of the traditional transactional relationship are relaxed.

“Partners in a strategic partnering relationship recognise each other as an extension of their own firm; ...both partners perceive the partnership as exclusive and not easily imitated by the competition.” (Mentzer et al, 2000)

Such relationships require a high degree of cooperation between the partners and involve time and effort and investment in the relationship which may not be easy to recover (Mentzer et al, 2000). Networking can be seen as reconceptualising organisational boundaries, reorganising work undertaken and the creation and the distribution of wealth, transforming the dyadic perspective of relationship marketing into a multi-firm network context (Jarrett, 2004).

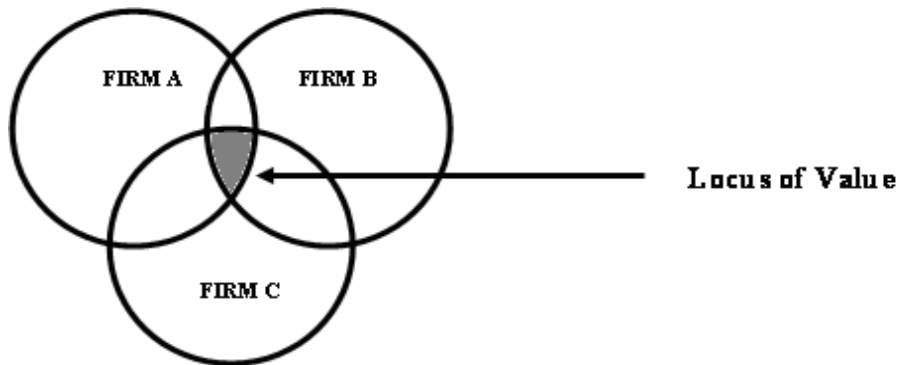
Figure 3.9: Value creation in a linear chain of relationships



(From Collins et al, 2002 p319)

The value chain relationship representation in Figure 3.10 shows a higher order relationship where the exchange of information between chain partners traverses several links in the chain. The Agrifood sector provides many examples of business practice, particularly where product identity preservation through the chain is critical (Goldsmith & Bender, 2004), and in fibre chains such as WoolConnect, where relationships and information exchanges traverse several steps in the chain and offer multiple opportunities for information exchange and learning (Walter, 2006; Jarratt, 2004).

Figure 3.10: The locus of value in multi-relationship chains



(From Collins et al, 2002 p320)

The research literature contains diverse views concerning the evolution and practice of supply chain management, which partly reflects business practice, from its logistic origins and channel theory (Lancioni, 2000). On the one hand there is the focus on the physical movement of goods through the management of the supply chain where the focus is on cost and supply. This is viewed from the perspective of the firm, particularly in large organisations with defined functional responsibilities, or from a cross organisational perspective through relationships with other chain partners, usually on a dyadic basis (Ballou et al, 2000; Lambert & Cooper, 2000). Lean thinking, efficient consumer response (ECR), category management (in food retailing) and quick response (QR) in the fashion industry are concepts, often supported by modern business systems, underlining the more sophisticated development of supply chain management (Coughlan et al, 2006; Juttner et al, 2007).

At another level the focus is on whole-of-chain approaches, often referred to as value or demand chain management where the focus is on marketing concepts and the consumer (Lee, 2001). It appears from the literature that some of the traditional academic logistics specialists are advocating a more consumer focussed approach to cooperation and collaboration in the chain, requiring cultural change and learning supported by the harnessing, sharing and development of appropriate capabilities (Juttner et al, 2007; Walters, 2006; Christopher, 2000). This process is further emphasised by the increasing demand by consumers for information along the lines outlined in Table 3.1 above (food safety, biotechnology, animal welfare, environmental assurances) that is shifting competitiveness away from tangible assets to value added and wealth creation through knowledge management. Knowledge becomes a strategic asset of the firm transcending the more mechanistic view of the supply chain analysis (Sporleder & Moss, 2002).

When change is endemic, “...successful companies are those that consistently create new knowledge, disseminate it widely throughout the organisation, and quickly embody it in new technologies and products. These activities define the ‘knowledge-creating company’, whose sole business is continuous innovation.” (Nonaka, 2000 p96)

Creating new knowledge depends on tapping the tacit and often highly subjective insights, intuitions and hunches of individual employees who see themselves as committed and identify with the mission of the organisation. Many Japanese companies are seen as living organisms with a collective sense of identity and fundamental purpose and a shared understanding of what the company stands for and its future. In such a knowledge creating environment, managerial roles and responsibilities, organisational design and business practices need to be thought about differently (Nonaka, 2000).

This thesis, supported by the literature, proposes that the paradigm shift involved in any new model for Australian agriculture offers opportunities for sustainable competitive advantage through capturing and managing knowledge. This involves transformational learning for chain participants (Gow et al, 2002), generative as much as adaptive learning (Jarratt, 2004), leading to the development of new competencies and capabilities, such

that the value chain concept becomes the implementation of the learning chain and a source of competitive advantage.

The TQW projects also are examples of the value of greater involvement by woolgrowers with higher levels of the chain. Clearly there are issues to be addressed in the design and implementation of such initiatives for their success. One outstanding benefit of the TQW projects was it provided far more information than the traditional system (Champion & Fearn, 2002). Additional success factors included the involvement of a knowledgeable project manager; an alliance with a retail partner who provided detailed feedback; access to market relevant information; supply management to specifications; and chain partners willing to change their practices (Lowe & Perkins, 2002).

The focus of this research is directed at the Australian Agrifood sector generally, but particularly at the traditional broad acre commodity industries where the development of chain knowledge, skills and capabilities appears to have lagged the transformation in international and domestic markets. This is particularly apparent in the wool sector irrespective of the messages from various industry reviews. The New Zealand Merino Company model appears to offer concrete evidence of the potential for more competitive performance. This research addresses the experience of WoolConnect as a case study to determine the development of chain awareness and hence the impact on learning, the development of individual skills and capabilities as well as organisationally, on the various enterprises involved with WoolConnect.

Chapter 4

Analysing the Value Chain

4.1 Introduction

The purpose of this chapter is to bring together the themes from previous chapters and identify the factors necessary to shape an alternative business model for the wool industry. Chapter 3 provided a value chain conceptual model or framework which has its origins in business practice and which appears to be supported by the research literature as discussed there. The framework also provides a basis for a questionnaire which can be used to analyse the experience of WoolConnect, a case from the wool industry which is the subject of this research. The questionnaire is proposed, with minor modification for specific circumstances, as a management tool to assist managers in guiding or assessing progress in chain development in the Agrifood sector and as a basis for training. It may be useful to review the thrust of the research at this point.

4.2 Why a New Business Model for Australian Agriculture?

The Agrifood sector is typical of most markets in facing dramatic change as a result of the impacts of globalisation, technological change and more liberal markets. Other factors such as climate change, environmental and resource utilisation and security concerns, including food security, are also impacting on the Australian farm sector. The traditional international competitiveness of Australia's traditional broad acre food and fibre commodities appears to be under threat, increasingly from rapidly growing developing countries, but also from developed economies such as the USA, as our cost base increases. Brazil has recently superseded Australia's export leadership in beef. The growth in imports of food and fibre products is rapidly outpacing our exports (Heilbron & Larkin). However the number of high value markets is expanding as increasing numbers

of more discerning consumers emerge, many in developing country markets. This is reflected in the variety of formats in the ever expanding food and fibre retail markets and the increasing recognition of brands, including house brands. Targeting high value consumers with branded products requires a different business strategy than the commodity marketing model.

4.3 Wool as a Case Study for a Value Chain Approach

Australia and NZ account for most of the world's fine merino wool production and export. The wool industry has been undergoing enormous structural change in terms of production, processing and marketing over the past two decades, but there has been limited change to traditional selling methods. The wool chain demonstrates the traditional features of the commodity marketing system. Most wool is sold at auction where there is little or no communication between woolgrowers and other chain participants. Relationships in the wool chain are largely adversarial and typically transactional in nature. The chain is long and costly. Diversity in wool production at the farm level is largely lost through the auction process and while this diversity may reappear at the product manufacturing stage, there is no preservation through the chain of identity issues which may be valued by today's consumers. While there have been isolated examples of the development of alternative chain-based business models, Australian woolgrowers generally do not favour an alternative to known and predictable methods, principally the auction, and do not have the skills, capabilities or mindset to trial an alternative model. Businesses through processing and retail also see little advantage in working with woolgrowers, although giving lip service to the desire for a more demand oriented business model. Industry-based institutions are also inimical to an alternative to current selling methods which could threaten their position.

4.4 Support for a Value Chain Model

The research literature generally supports the benefits of a more cooperative and collaborative business model which puts the customer (preferably the final consumer) as

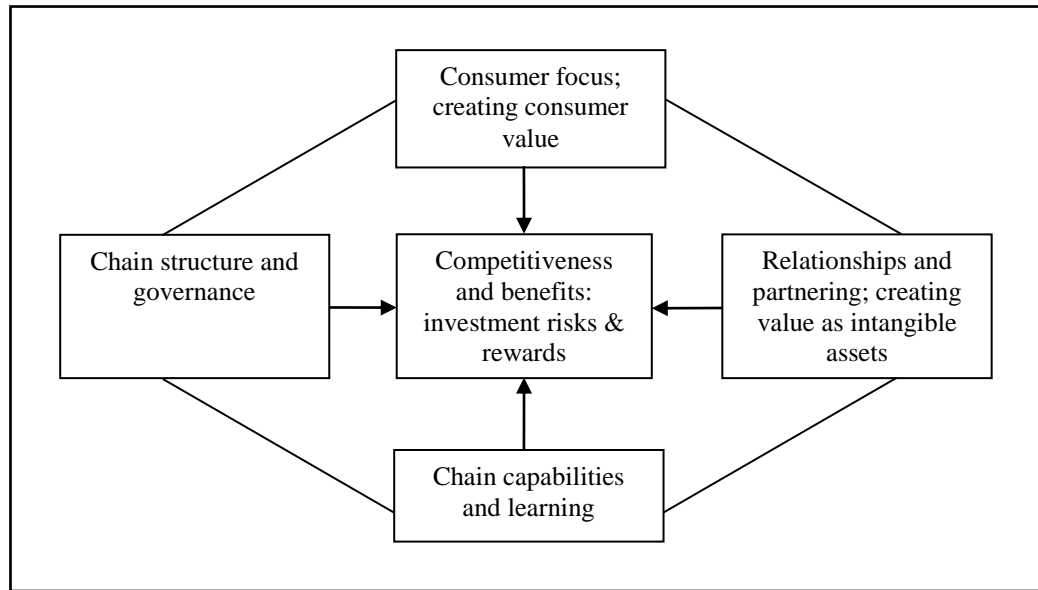
the focus of the chain. Academic research has lagged business practice in the development of supply chain management, where the perspective initially has largely been from a largely logistics management focus. The marriage of supply chain management with marketing has led to a demand and value chain orientation. Supply chain management research has focussed variously on intra-firm issues, including the development of cross-functional development, to an inter-organisational focus and more recently to a whole-of-chain focus.

The logic of a whole-of-chain focus in the Agrifood sector is based on capturing the skills and capabilities in production and marketing available to businesses across the chain to meet the requirements of specific customers or market segments. The key to market responsiveness in the face of additional uncertainty increases pressure for improved chain performance, including by being increasingly ‘agile’ (flexible) and/or ‘lean’ (efficient). This approach also calls for the management of information and knowledge through the chain. In a value chain context relationships are seen as intangible assets to be developed and nurtured to encourage learning through the development of social capital among chain partners. Value chain performance involves continuous improvement and performance measurement.

4.5 Agrifood Value Chains: Key Dimensions

For convenience, the conceptual model on which this study is based is repeated in Figure 4.1. This model provides a framework for developing, evaluating and assessing value chains in the food and fibre industries. The framework consists of a number of key dimensions critical for successful value chain development. The model draws on the research literature summarised in Chapter 3 as well as from business practice among food and fibre projects supported under various Australian Federal Government programs over the past 15 years or so. For each dimension the key propositions of the model for the WoolConnect case study are highlighted.

Figure 4.1: The Agrifood Value Chain: A Conceptual Model



(Adapted from “Value Chains: A Project Management and Mentoring Guide”, Agri Chain Solutions, Canberra, 2002)

Review of Framework Dimensions

The key dimensions in this framework are:

- Consumer focus
- Chain structure, management and governance
- Chain leadership and coordination
- Relationships as intangible assets
- Chain capabilities and learning
- Investment risks and rewards

Consumer Focus

The literature suggests that a sustainable value chain capable of creating and delivering superior value propositions for end consumers will demonstrate an in-depth appreciation of consumer markets. It requires a customer orientation across the chain. It must have the willingness to develop, and the capacity to deliver, consumer value propositions that resonate with consumer perceptions of desirable outcomes. It must transmit consumer information through the chain that is incorporated in production and marketing decisions made to a coherent and integrated marketing plan.

Proposition 1: The adoption of a value chain model requires a market orientation across the chain.

Chain Structure, Management and Governance

Chain participants should recognise that the chain, rather than the industry, provides the platform on which competition occurs, so strategic compatibility between chain partners is encouraged. The literature recognises the necessity for the linkage of the network structure, business processes and management of the various chain components. The value created and captured at each level of the chain is understood and agreed upon by chain partners. A demand driven chain that efficiently coordinates marketing and chain management processes can provide an effective response to the value creating requirements of consumers and can be a source of superior competitive advantage. This requires efficiency in chain processes balanced by an integration of marketing priorities to deliver consumer value. Supply management, including a supply commitment to identified specifications from primary producers, is a chain competitive strength.

Proposition 2: A cost-efficient value chain depends on effective cooperation and collaboration between chain partners.

Chain Leadership and Coordination

The literature emphasises the complex nature of alliance management because an alliance brings together organisations with different cultures, perceptions and objectives. Chapter 3 noted that the role of the alliance or chain manager is critical for effective alliance management as it becomes the focus for achieving the desired outcomes at the various stages of development of the alliance or chain. The chain manager helps to drive and articulate the idea, typically as the chain or alliance champion; engages in networking to secure commitment and participation of key organisational players; manages the ongoing operation of the alliance; mediates conflicts between alliance partners and drives the initiative in its early stages. The alliance manager also has a broad-based range of skills and competencies and interpersonal skills together with an ‘alliance mindset’, or way of thinking, that accentuates creativity and learning, and chain skills and competencies.

Proposition 3: Value chain effectiveness requires a coordinated focus through a focal chain business or chain captain.

Relationships as Intangible Assets

The literature strongly supports the complementary nature of a market orientation and relationship marketing that provides for collaboration between trading partners. Similarly, it acknowledges the complementary nature of consumer value creation and relationship management in modern commercial practice. The value chain approach raises the possibility of richer and closer relationships with committed buyers and/or suppliers. These relationships can be seen as assets of the firm, ultimately improving cash flow, but requiring investment or commitment of resources (funds, time and learning). Further, market focussed businesses are dedicated to understanding their customers, a strong market orientation and collaboration with chain partners. This leads to adaptation and evolution, organisational learning and trust between chain partners.

Proposition 4: A value chain model involves the development of strong relationships with chain partners.

Chain Capabilities and Learning

In the Agrifood sector the transition from a traditional commodity based marketing system, based on homogeneous products and spot markets, to a more consumer demand-driven marketing arrangement requires a different set of skills, resources and capabilities to the firm's existing core competencies. This requires a strategic intent, involving innovation in business and marketing practice. It requires businesses to leverage the skills and capabilities (core competencies) of others to achieve outcomes for the chain as a whole involving new competencies which are difficult to imitate. Knowledge management becomes a priority in chains where new or unique customer value propositions are required in differentiating the chain from its competitors.

Proposition 5: The development of value chains involves the development of chain skills and capabilities across the chain.

Chain Investment Risks and Rewards

Value chain approaches require businesses to innovate in pursuing consumer focussed marketing initiatives and develop new capabilities by accessing the capabilities of others through relationship development through the chain. These relationships generate value as intangible assets leading to improved cash flow (increased, earlier or less volatile cash flow). The approach also improves information access (its availability, accuracy, timeliness), facilitating management decisions, and opportunities for learning.

The rewards from chain investment and participation need to be balanced against the potential chain risks which have to be appropriately managed. All partners need to recognise and manage risk in a chain context, that is, by transferring risk along the chain. The key risks identified in this context are financial risk (impact on cash flows), capability development and transfer by chain participants, relationship risk arising from chain participation and production risk. The latter is a particular concern in Agrifood chains where seasonal or other influences can affect quality and quantity.

Proposition 6: The development and growth of value chains involve recognition and management of the risks and rewards involved in chain participation.

4.6 Building an Analytical Checklist for Chain Assessment

The objective of this research is to fill the gap in understanding and appreciating the critical factors for successful value chain development as a basis for developing value chains in traditional agricultural sectors like the Australian wool industry where adherence to traditional commodity methods of sale is a barrier to improved performance. To reiterate previous research findings on the weakness of the fine wool apparel industry

“... problems exist with the sourcing of raw wool for the apparel textile industry ... the apparel wool industry needs to cooperate to compete in dynamic, global markets ... in which vertically coordinated supply chains are the norm, auctions non-existent and communication is seen as a strength, rather than a weakness.”

(Champion & Fearne, 2001 p237)

And further,

“There are few concrete ideas on how to achieve this transition quickly, efficiently and effectively and recent history has seen a number of failed attempts on behalf of various growers and grower groups to add value to their wool in various ways.” (Champion & Fearn, 2001 p238)

Accordingly this analytical framework identifies the signposts for the development, implementation and monitoring of an effective value chain in the fine wool sector. There appears to be a broad alignment between the food and fibre sectors. Issues in the minds of consumers are broadly similar in terms of concerns such as (for example) product integrity, safety, provenance, environmental and welfare issues. The chains have similar structures and, as far as the traditional pastoral and cropping industries are concerned, are many of the same businesses, with the same attitudes and culture. Selling systems and industry structure have much in common. Consequently the model provided, although largely based on the wool industry case, potentially has broader application. For this reason, much of the literature pertains to the food sector as much as the fibre sector, hence the reference to the Agrifood sector generally. Experience from business practice also confirms the close alignment between the food and fibre sector.

We have identified six dimensions of the framework. The literature on chain management generally emphasises the centrality of the consumer, and the emphasis on creating superior consumer value propositions by assembling the core capabilities of individual businesses across the chain through the development of relationships with chain partners. This strategic logic underpinning a value chain approach captures the elements of consumer focus, capabilities and relationships. The efficient and effective management of the supply chain is well established from the literature. Effective financial performance needs to be demonstrated as does the recognition and management of risk. Essential facilitating elements such as chain transparency and communication, chain leadership and commitment and the development of trust are incorporated both specifically in the selected key categories and across the various dimensions.

The literature identifies several categories as important components of each of the key dimensions. The subsidiary categories could be framed in slightly different ways to meet specific chain situations. In this research they are tested against the WoolConnect case to test for consistency and validity in application. Within each category a set of indicative factors is also identified, largely based on the research literature but also reflecting business practice. These indicative factors are framed to guide those using the model and interview guide by amplifying the meaning of each category. Table 4.1 summarises the dimensions and elements of the Agrifood value chain framework.

Table 4.1: Dimensions and Categories used to Assess Chain Awareness/ Performance of the WoolConnect Marketing/Value Chain

Chain Awareness Dimensions	Key Categories in each Dimension	Possible Indicative Factors for each Category
1. Consumer focus	(a) Creating consumer value	Target segment, segment size, category trends, level of competition, unmet needs
	(b) Differentiation	Product differentiation, service differentiation, price advantage
	(c) Marketing mix	Positioning in the market, product range, pricing policy and strategy, promotion, distribution strategy
	(d) Innovation	Product, service, process and chain, agility, flexibility, scalability
	(e) Customer information	Supplier performance system, planning horizon, availability and accuracy, timeliness, analysis tools, analysis capabilities
2. Capability development	(a) Capabilities	Performance, alternatives, capability gaps, capability boundaries
	(b) Capability investment	Strategic importance, corporate reputation, CEO commitment, resource commitment
	(c) Partnering capability	Partnering experience, partnering reputation, patient investment
3. Chain development	(a) Industry context	Trends, new ways of doing business, leadership
	(b) Chain value	Compatibility, capabilities, re-alignment, information flow
	(c) Chain leadership and management	Chain captain, leadership, chain coordinator, chain manager
	(d) Supply management	Available quantity, production risk, quality management, group cohesiveness

4. Relationships	(a) Foundation	History, profit drivers, culture, social bonds
	(b) Trust	Reward sharing, consideration, predictability, opportunism
	(c) Strategic vision	Articulated vision, communicated vision, buy-in, revert-to-type
	(d) Potential asset	Strategic information, investment, inter-dependence
	(e) Horizontal relationships	Leadership and management, time together, group uniformity, systems and processes
5. Investment risk	(a) Capability development	Competence, capability investment, capability transfer
	(b) Chain risk	Risk management, risk transfer
	(c) Relationship risk	Other customer and supplier relationships, position of dependence, decline in innovation
	(d) Production risk	Climate risk, quantity risk, group risk, system risk
6. Investment rewards	(a) Cash flow	Cost savings, revenue from existing or new customers, margin management, working capital management, fixed asset management
	(b) Customer relationships	Service levels, deeper relationships, access to information
	(c) Learning and innovation	New product development, processes and systems, human resources and culture, benefits over time

(Adapted from “Value Chains: A Project Management and Mentoring Guide”, Agri Chain Solutions, Canberra, 2002)

These dimensions, and the categories identified in each dimension, provide the basis for construction of the case study questionnaire (Appendix A). The overall methodology employed for the conduct of the WoolConnect case study is the subject of Chapter 5.

Chapter 5

Research Methodology

5.1 Background

This chapter details the research methodology used to examine what is, in effect, the key research question, namely, how do businesses in traditional commodity industries develop and implement a value chain business model? This research also explores the usefulness of a management tool to assess chain performance. To reiterate, the research is based on the case experience of WoolConnect, a whole-of-chain initiative which had its origins with 66 woolgrowers located in the Boorowa region of NSW, as outlined in the scenario in Chapter 3. As indicated elsewhere, the WoolConnect value chain consists of a horizontal alliance of woolgrowers, now the business entity WoolConnect Ltd, and the relationships it has established with wool processing and apparel manufacturing businesses in the vertical chain.

This case provided ‘access’ to businesses to gain in-depth insights in a specific research area (Gummesson, 2000). The ‘preunderstanding’ (Gummesson, 2000) or ‘theoretical sensitivity’ (Glaser, 1987) brought to the project, also reflects my own knowledge, insights and experience of the operation of the Agrifood sector generally (of which the wool industry is a typical component), and of a wide range of similar chain development initiatives. This access and experience was also a benefit in the conduct of the interview process because of the longstanding association with WoolConnect from its inception and my familiarity with similar wool initiatives such as TQW.

5.2 Case Study Methodology

The design of the case study and formulation of the case study protocol to guide the investigation of the WoolConnect value chain was based on the work of Yin (2003). A

case study protocol was developed in accord with his model initially as part of a submission to the University of Sydney's Human Research Ethics Committee.

Case studies have explanatory and descriptive values as well as an exploratory function. Case studies can be categorised according to the type of research question ('how' or 'why' questions are most suited to investigation by way of case study); the extent of control (case studies are appropriate when no manipulation of behaviour is possible); and case studies also are favoured for examining contemporary events (Yin, 2003).

Gummesson (2000) also considers case study research a useful strategy for studying processes in companies and for explanatory purposes. The case study provides a flexible yet integrated framework for the holistic examination of a phenomenon in its natural state. The design of a case study can be customized to address a wide range of research questions and types of cases and to incorporate a variety of data collection, analysis and reporting techniques (Yin, 1993). Because the case study is exceptionally useful for descriptive research, theory generation and examination of a typical phenomenon, it is particularly appropriate for applied research related to contemporary issues for people in the real world (Marra, 1992).

Eisenhardt (1989) provides a more comprehensive definition of case study methodology:

"The case study is a research strategy which focuses on understanding the dynamics present within single settings ...Case studies typically combine data collection methods such as archives, interviews, questionnaires, and observations. The evidence may be qualitative (eg words), quantitative (eg numbers), or both ...case studies can be used to accomplish various aims: to provide description ...test theory ...or generate theory ...An initial definition of the research question, in at least broad terms, is important in building theory from case studies."
(Eisenhardt, 1989 p534-536)

Case study methodology has been selected to explore the research questions proposed in this dissertation through examining the value chain approach employed in the

WoolConnect chain. A case study protocol was designed drawing on the experience of Yin (2003) to ensure reliability, and repeatability. The protocol helped focus the study and guide the investigator in its conduct. However, the case study design has also been framed to satisfy the four common tests generally recognised to establish the quality of any empirical social research, namely: construct validity, internal validity, external validity and, as noted above, reliability (Yin 2003, p64).

The protocol followed the format outlined by Yin (2003, p68) and incorporated the rules, general procedures and details of the research instrument devised for the area of study. It also provided the framework to give effect to the components of the research design, namely: the research questions; the underlying propositions of the study; the unit of analysis (in this case, the individual business units); the logic linking the data to the propositions; and the criteria for interpreting the findings.

The WoolConnect value chain was selected to review and evaluate the underpinning factors that are likely to be relevant to the wider adoption by businesses in the wool industry of a value chain approach. While WoolConnect is small in terms of the volume and value of product processed to date, it was an opportunity to obtain rich and detailed data on the complex array of factors that influence cooperation and collaboration among chain partners to create consumer value. The study aimed to provide recommendations to businesses in the food and fibre industries generally, and to the wool industry in particular, on the issues to address in developing and implementing a value chain management strategy. The protocol provided the basis for consultation and advice prior to and during the process of data collection. Elements of the protocol are incorporated here, and Appendix A, to explain how the methodology guided the field procedures.

5.3 Case Study Field Procedures

Selection of Businesses to be Interviewed and Contact Persons

The unit of analysis in this case study is the business entity at each level of the value chain. The prime contact for interview in each business was a key decision-maker (CEO or senior manager).

As indicated in earlier chapters, the wool value chain is similar in structure to many commodity industries in the agriculture sector, which can be represented by an ‘hour glass’ or ‘wine glass’ structure. There is a broad horizontal network of relatively small raw material production businesses, in this case largely family owned wool growing businesses. Wool processing at the topmaking and spinning and dyeing stages is characterized by relatively few but large processors. At the fabric production, knitting and weaving stage the number of businesses increase and tend to be much smaller in size. Fashion, design and retail sectors are typically fragmented although there are also large businesses in these sectors. This structure provides the framework for this case study.

The WoolConnect production base consists of 66 wool producers. About half of these businesses were interviewed, including:

- The chain ‘champion’, the WoolConnect Chairman and chain manager
- The WoolConnect Executive collectively
- The 18 producers who have provided wool to date
- An additional 7 producers who have yet to provide wool

The key members of the vertical chain interviewed were:

- The WoolConnect executive collectively (representing WoolConnect Ltd)
- Original topmaker Chargeur (Riverina Wool Combers); this company recently has reduced its Australian operations
- Macquarie Textiles (wool spinner); spinning is now undertaken in China but the company continues to supply some yarn to Humphrey Law
- Humphrey Law (hosiery manufacturer); the key customer
- Pacific Fabrics (knitwear manufacturer), a potential chain partner
- Paula Hilyard (a fashion designer/manufacturer/retailer of apparel)
- David Jones (Australian retailer of Humphrey Law socks)

New chain partners in China (formed when Australian early stage processing ceased) were not interviewed as only one shipment had been processed:

- Reward (Taiwan owned topmaker)
- Sudwolle (German owned spinner; the world’s largest wool spinner)

Several service providers (see below) were proposed but only Landmark (regional and national managers) and Graeme Forsythe & Associates were interviewed:

- Wool brokers used by WoolConnect members (Landmark and Elders)
- AWTA (Australian Wool Testing Authority)
- Merinomark, an independent product quality assurance testing and certifying body
- Graeme Forsythe and Associates, consultant, implementing a communication platform across the WoolConnect chain

Other grower marketing initiatives were reviewed. Three members of Yass Merino Growers were interviewed, including two who are also members of WoolConnect. Documentary material, including web-based material, was obtained on other grower initiatives as part of the triangulation process and to access multiple sources of evidence:

- Traprock Wool (Qld)
- Tasmanian Quality Wool
- New Zealand Merino Company

Data Collection Plan

This research was undertaken with the full cooperation of the WoolConnect chairman/chain manager and the WoolConnect executive who provided assistance in contacting WoolConnect members and other chain participants. An interview with the WoolConnect chairman/chain manager provided the pilot for the project discussion guide. The members of the WoolConnect network made up the bulk of businesses, some 35, included in the study. Appointments were made with businesses which are located mainly in the region around Boorowa on the NSW South West Slopes, which is within easy reach of Canberra from where the research was undertaken. The WoolConnect chairman/chain manager circulated members to promote the study and foreshadow direct contact from myself as the researcher. This was the most time-consuming phase of the research, with an average of 3 to 4 interviews conducted each day of interview between December 2006 and February 2007, during one of the worst droughts in Australian

history. Interviews were also conducted in Canberra, Wagga, Albury, Melbourne and Sydney with relevant businesses.

The processing and retailing businesses in the vertical chain are mostly based around Melbourne. However the major focus of WoolConnect's current early stage processing is in China. This was due to topmaker Chargeur discontinuing its Australian 'Superwash' process which reduces shrinkage in woollen products. Interviews with representatives of the two China-based businesses were not undertaken given the early development of their relationships with WoolConnect.

The chain service providers are either locally-based or Melbourne-based. Landmark representatives were interviewed both at the local level in Boorowa and at the national level in Melbourne. The chain manager of the Yass Merino Woolgrowers was interviewed near Yass to extend the coverage to non-WoolConnect initiatives. Interviews with other service providers, AWTA and Merinomark were curtailed for logistical reasons. All interviews were conducted person to person at the business concerned.

Preparation Prior to Visits

The appropriate questions or propositions to focus interviewees on the key areas of inquiry (see section 5.3 below) were considered and prepared at each level of the chain prior to interview and were reviewed as the interview process unfolded. As the researcher, prior to conduct of the interviews I considered and reviewed the commonly required skills of case study investigators outlined by Yin (2003) including

- Asking good questions
- Being a good listener
- Being adaptive and flexible
- Having a firm grasp of the issues being studied
- Being unbiased by preconceived notions

5.4 Case Study Discussion Guide

A substantive set of questions (discussion guide) reflecting the actual line of inquiry lies at the heart of the case study protocol. These questions are guide posts for the interviewer to identify the information to be sought, and why, as well as providing prompts during the course of the interview and to keep the process on track (Yin, 2003). The case study questions were developed from the checklist provided in Chapter 4, which is itself grounded in the literature summarised in Chapter 3. The assessment of participants' chain awareness or development was based on examples provided as 'word pictures' of 'high' and 'low' performance in terms of each category. Possible indicative factors for each category are also provided to guide interviewers.

This case study methodology was also modelled on the relationship marketing study methodology employed by Lindgreen et al (2006), and detailed in Chapter 3, because of a similar focus on normative issues and the development of an assessment tool. A case study from the motor vehicle industry was used to test the assessment tool. In that case a self assessment questionnaire was sent to participants for response. The questionnaire involved 10 dimensions, some of which resemble the six dimensions identified in this study. However, against each dimension, respondents were asked to identify their own performance against one of 11 statements in a gradation from 0 to 10.

This approach seems fraught with difficulty in terms of a practical assessment tool for use by managers in field situations. For example, it requires some ability in literary comprehension to read, comprehend and evaluate the subtle differences in meaning in the total of 110 graded statements. Would busy executives, many of them hands-on managers, be prepared give the survey due consideration? Gummesson (2000) has identified similar problems in achieving meaningful or accurate responses or opinions from busy executives in research studies. Do they simply tell researchers what they want to hear? Responses to survey questionnaires in business studies are typically 30 to 50 per cent which is often regarded as 'acceptable'.

The value chain case study requires participation in the case from each of the key businesses in the vertical chain and a reasonable cross section in the horizontal woolgrower alliance. In these circumstances an interview situation was chosen involving verbal responses.

“Among the methods available to the traditional researcher, *qualitative (informal) interviews* and *observation* provide the best opportunities for the study of processes.” (Gummesson, 2000 p35)

Structure of Discussion Guide

The questionnaire was designed accordingly. Some examples of the discussion guide format, and its structure, are shown in Table 5.1 below. The first column features the dimension being investigated. The first dimension is *consumer focus* which includes five categories; the first being *creating customer value*. The dimensions and categories selected flow from the research literature in Chapter 3. These also align well with field experience. The second and third columns show examples of high and low chain awareness. *The fourth column provides the lead questions for the researcher to ask the participant to gauge the stage of chain development or awareness.* The final column provides for a score, either numerical or verbal (high, low or intermediate). As the use of this questionnaire was exploratory the verbal approach was used. The first column also provides the researcher with possible parameters that define each category, as shown. Examples are provided from each of the six dimensions. The full discussion guide, provided in Appendix A, features 24 categories and takes from 90 minutes to two hours to administer, depending on the respondent.

Table 5.1: Examples from Discussion Guide

Parameter	Example of High Chain Awareness (score 7-10)	Example of Low Chain Awareness (score 1-3)	<i>Specific Discussion Questions to Participants</i>	Evaluation and Score
1. Consumer focus (a) Creating Consumer Value Target segment Segment size Category trends	The firm is able to clearly articulate their target customer group, growth trends in the segment, and	The firm has only a vague notion of their customer segment with little detailed understanding of	Who do you see as the principal customers for your wool products? How do you see current consumer	

Level of competition Unmet needs	the gap in the market based on the level of satisfaction with current suppliers.	their needs and situation.	perceptions of wool products? How do you see future demand for woollen goods?	
2. Capability development (a) Capabilities Performance Alternatives Capability gaps Capability boundaries	The firms involved are clearly high performing – the alternatives are inferior. The capability boundaries have been delineated and there are few capability gaps.	This looks more like a collection of firms based on convenience, with significant capability gaps and fuzzy boundaries.	Is there a common thread about the capabilities of businesses in the WoolConnect membership e.g. how they see each other or how they relate to each other?	
3. Chain development (a) Industry context Trends New ways of doing business Leadership	The chain strategy is consistent with trends in the industry. It is widely accepted this is the way successful firms will operate in the future.	There is a high degree of uncertainty, and probably scepticism, about the future role of chains in this industry.	What is your view of chain development, along the lines undertaken by WoolConnect, as a business strategy for the wool industry?	
4. Relationships (a) Foundation History Profit drivers Culture Social bonds	The firms in this chain have a good history of working together. They understand each other's business and culture and have developed strong personal friendships.	The firms in the chain are just starting to work together. They do not understand each other's business or culture.	In the WoolConnect chain, how do you see the current relationships between chain partners, both horizontally and vertically?	
5. Investment Risk (a) Capability development Competence Capability investment Capability transfer	There is little risk that firms will not invest in developing the relevant capabilities.	There is a high likelihood that firms will not develop capabilities and the chain performance will suffer accordingly	How much of your time and effort does WoolConnect require? Is this worth it? Would you commit more time, or funds, or training?	
6. Investment Rewards (a) Cash Flow Cost savings Existing revenue Revenue from new customers Margin management Working capital management Fixed asset management	Firms have a clear view of how the chain strategy will benefit them – and benefits will flow quickly and directly into cash flows.	Basically it all seems to be about fuzzy long term benefits – with no direct benefits to cash flows in the short term.	How has the WoolConnect initiative benefited your business generally and particularly in terms of improved returns?	

Additional information was collected from participants to provide a profile of the business concerned. For example, among woolgrowers this included broad measures of wool output, past and forecast trends in wool production, enterprise mix, employment, and management structure and skills in production, business management and marketing.

5.5 Data Collection

Yin (2003) identifies three principles of data collection to help to ensure construct validity and reliability of the case study evidence which can be applied to the various sources of evidence (documentation, archival records, interviews, direct observations, participant observation and physical artefacts). These are:

Principle 1: Use Multiple Sources of Evidence

Principle 2: Create a Case Study Database

Principle 3: Maintain a Chain of Evidence (Yin, 2003 pp97-106)

The case study explores the WoolConnect value chain which has both horizontal (mainly the 66 wool producers) and vertical (wool producer, topmaker, spinner, apparel manufacturer, retailer, etc) elements, along the lines identified in Chapters 2 and 3, involving individual business units. Overall, the case study has identified numerous embedded units (participating businesses) which contribute in one way or another to the performance of the chain. The study involves more than one unit of analysis, both the individual business units making up the overall chain at one level while the total value chain is the unit of analysis at another level.

To ensure construct validity in the case study design multiple sources of evidence are identified in the protocol, including the WoolConnect chain partners, alternative chains (Traprock Wool, Yass Merino Growers, Tasmanian Quality Wool and the New Zealand Merino Company), and businesses providing services to WoolConnect and/or other chains. Yass Merino Growers were included in interviews while the other groups mentioned were examined through documentary evidence, other research and web-based

data. Personal involvement and observation of the developmental history of WoolConnect and involvement with WoolConnect functions such as Board or Committee meetings adds to the multiple sources of evidence which, Yin suggests,

“...allows an investigator to address a broader range of historical, attitudinal and behavioural issues ... (and) the most important advantage ...the development of converging lines of inquiry, a process of triangulation. ...Thus, any finding or conclusion in a case study is likely to be much more convincing and accurate if it is based on several different sources of information.” (Yin, 2003 p98)

Further, the preliminary findings of the study were reviewed with the WoolConnect executive as a source of, and tactic for, triangulation of data sources (Miles and Huberman, 1994) to corroborate data collected from individual business units. Data collection was principally through interview which, as the questionnaire in the protocol indicates, largely follows prescribed lines of inquiry. The data was recorded by handwritten notes rather than by audio or video record. This method was preferred consistent with Yin's (2003) comments on when such devices should not be used (interviewee refusal or discomfort; cost and/or time involved in transcription; interviewee distraction; complacency on part of interviewer and substitution for close attention to actual interview). May (1993) noted similar potential disadvantages in audio recording.

The structured questionnaire format enables the categorisation and coding of the areas of investigation in such a way that the data can be organised and documented in narrative and tabular formats that are useable by an outside party. The notes of interview were reviewed and comprehensively rewritten for analytical purposes (to ensure they were organised, categorised, complete and available for later access), namely to establish comparative scores, and to draw out common themes. The scores were included in a database to establish patterns of responses at each level of the chain and across the chain. While no scoring was possible for those not directly involved in the WoolConnect chain, the questionnaire, which is literature based, provided the basis for all interviews.

Yin's third principle of data collection, to increase reliability, is to maintain a chain of evidence from initial research questions to ultimate conclusions and, if necessary, back again. The design of the WoolConnect case study provides for a chain of evidence. The three principles of data collection provide a basis for quality control through the data collection process so that the data collected reflects:

“... a concern for construct validity and for reliability, thereby becoming worthy of further analysis.” (Yin, 2003 p106)

5.6 Data Analysis

Proponents of case study research emphasise the opportunity such research provides to obtain a holistic view of the field of study and that it is particularly useful where the aim is to provide managers with tools, for example, to implement or monitor a change process. This research was largely based on interviews with the principals or senior managers of chain businesses. The data analysis involved the examination of the interview material, its reduction, organisation and tabulation, followed by interpretation of the data to bring out key themes and to draw conclusions.

Yin (2003, p109) says data analysis

“...consists of examining, categorizing, tabulating, testing or otherwise recombining both quantitative and qualitative evidence to address the initial propositions of a study.”

Sarantakos (1998) describes the cyclical process of data analysis involving the three stages of data reduction, organisation and interpretation. He recognises that data reduction often commences in the interview stage and it can be difficult to separate data collection, reduction and analysis into three distinct phases. Additionally, Yin (2003) suggests the fundamental importance of having a general analytic strategy to address the wider case study irrespective of specific identifying concepts or themes (Strauss and Corbin 1998) or analytic manipulations of evidence (Miles and Huberman, 1994).

“The strategy will help you to treat the evidence fairly, produce compelling analytic conclusions and rule out alternative interpretations. ... [It will also help you] to use tools and make manipulations more effectively and efficiently.” (Yin, 2003 p111)

Yin (2003) defined three general strategies for analysing case study evidence. His preferred strategy is to follow the general propositions that led to the case study and are reflected in the case study design, reviews of the literature, the original research questions and any new hypotheses or propositions (Yin, 2003 p112). The second general analytic strategy is to define and test rival explanations. This approach is common in evaluations. A third possible strategy, but less preferred, is to develop a descriptive framework for organising the case study which is common with descriptive cases studies or when the previous strategies are not easily employed.

The design of the WoolConnect case study was developed drawing on Yin’s (2003) initial strategy. The design of the questionnaire was developed from the series of concepts and issues within six broad subject areas defined in the research literature. This framework is the basis for the organisation and tabulation of data from interviews and is similar to the methods proposed by Miles and Huberman (1994).

5.7 Analytical Techniques

The methods employed for analysing case data vary significantly. Referencing the work of Strauss (1987, 1991), Sarantakos summarises the model of grounded theory development through a process leading from coding to concepts, and then to new categories (with the assistance of memos), leading finally to the development of hypotheses and grounded theories. Many techniques assist with this. Some of the more established are summarised in Miles and Huberman (1994) and include: use of contact sheets; use of codes and coding; pattern coding; memoing; case analysis meetings; interim case summaries; vignettes; pre-structured cases; and sequential analysis.

Sarantakos (1998) also cites the analytic techniques of Neumann (1991, pp419-428), namely: successive approximation; illustrative method; analytic comparisons; method of agreement; method of difference; domain analysis; ideal types; and cultural analysis.

In relation specifically to case study analysis, Yin (2003) focuses on addressing the initial propositions of the study and using analytic techniques that enhance the internal and external validity of the research. He recognises the analytic technique employed is a matter for personal preference in terms of the skilful application of the various techniques. Corbin and Strauss (1990) also discuss theoretical sensitivity, referring to Glaser (1978), in recognising what is important in the data and giving it meaning with the benefit of familiarity with the literature, on the one hand, and professional and personal experience on the other. This study is built strongly on the latter proposition which was referred to earlier in this chapter. Professional experience with WoolConnect and other value chain initiatives has instigated this research as well as the focus on WoolConnect, one of very few models of recent value chain development in the wool industry. The conceptual model on which the model is based is grounded in related business theory and field experience.

Corbin & Strauss (1990) emphasise the personal qualities of the researcher in having insight and awareness of the subtleties of meaning in the data and having an ability to understand the professional literature and one's own professional and personal experience. It is necessary to step back occasionally and ask 'What is going on here?'; to maintain an attitude of scepticism and follow rigorous research procedures in data collection and analysis (Corbin & Strauss, 1990).

Pattern matching in its various ramifications is the technique favoured by Yin (2003) where, typically, an empirically based pattern is compared with predicted ones. A refinement of pattern matching is explanation building, where the goal is to build an explanation about the case, a procedure he argues is appropriate to exploratory case studies. He also argues that a similar procedure for exploratory case studies is part of the

hypothesis generating process (Glaser & Strauss, 1967), where the goal is not to conclude a study but to develop ideas for further study.

In the WoolConnect case study the data has been examined for patterns of behaviour or attitudes among the various actors at different levels of the chain to establish the degree of alignment with the predictions of the conceptual model.

5.8 Interpreting the Findings

Interpreting the interview data and drawing relevant conclusions to address the research questions is perhaps the most significant step of the research process. Sarantakos, (1998) notes there is little guidance in the literature, or rules to follow, the process being left very much in the hands of the researcher.

Miles and Huberman (1994) ask whether meanings identified in a given study are valid, repeatable and right. They discuss how to confirm meanings, avoid bias and assure quality of conclusions under four groups of tactics to be employed when drawing conclusions. These groups are: tactics for generating meaning; tactics for testing or confirming findings; standards for the quality of conclusions; and documentation.

The formulation of the results and the interpretation of the findings from the WoolConnect case involve the selective application of some of these tactics.

5.9 Comments on Methodology

This study is concerned with an effective response to pervasive change embracing the world economy, the environment, technology (particularly communications) and international markets. The emphasis has been on the value chain as an appropriate response for Australian food and fibre businesses, particularly on how to introduce a

value chain model, and the development of an appropriate assessment tool for value chain managers. The research methodology involving an exploratory assessment tool is therefore developmental both in terms of the content of the questionnaire and in terms of the interview process and the collection and analysis of data. It would seem critical that an assessment tool could be readily used by chain managers, involve all critical chain partners and be consistently applied. Thus the assessment tool specified in this research will require ongoing refinement by those using it in specific chain situations.

A case study research methodology is employed building on a conceptual model with many variables. The epistemological approach therefore is more oriented to a hermeneutic than a logical positivist research methodology. The research literature has provided the basis for developing and validating the model and research approach and this appears to be supported by available field experience.

The literature has provided limited models of alternative assessment tools. The methodology employed by Lindgreen et al (2006) has informed this study, although there are reservations about the practicality of the self assessment mechanism in that study as discussed earlier in the chapter.

Chapter 6

Case Study Results

Interviews were conducted in accord with the plan shown in Chapter 5. As indicated there, the results of interviews were initially recorded and subsequently summaries of responses were prepared against the parameters developed through the course of this study. Consolidated interview reports provided a comprehensive picture at each level of the chain against the parameters of the framework. The results were also entered into spreadsheets to provide an overview of the development of chain awareness among chain partners as defined in the questionnaire. The interview results reflect the findings against the literature based propositions based on the model or framework for value chain development in Chapters 3 and 4, namely, customer focus; capability development; chain development; relationships; and the investment risks and investment rewards. These dimensions are closely related.

6.1 Results

The interview results are evaluated against each of the propositions, which identify the key success factors for value chain development, using research questions specific to the experience of members of the WoolConnect chain against those propositions. The overall results are consolidated in Table 6.1. To review, the interview results focus specifically on the following levels of the chain:

- A horizontal network of woolgrowers; members and shareholders of WoolConnect Ltd
- WoolConnect Ltd, the grower owned chain management company which arranges the accumulation and processing of wool on behalf of shareholders
 - Management directed by executive and
 - Implemented by the chain manager, (current Chair of WoolConnect Ltd)

- Two early stage processors who provide processing services, on a toll basis, namely
 - Riverina Wool Combers (Chargeurs)
 - Macquarie Textiles
- Humphrey Law, the hosiery manufacturer who purchases spun yarn from WoolConnect Ltd to produce branded hosiery products for retail sale
- David Jones Ltd a retailer of Humphrey Law hosiery

Interviews with chain participants addressed each of the six dimensions of the chain provided in the conceptual framework. The dimensions are closely related with an inevitable overlap across various categories; for example, partnering under the capabilities dimension and horizontal relationships under the relationships dimension.

6.1.1 Consumer Focus

Value chains only make sense when the participants are passionate about creating value for consumers (ACS, 2002). This can only be achieved if there is a customer orientation across the chain as identified in Chapter 3. The following five categories were examined to test the degree of market orientation of the chain at its current stage of development under the customer focus dimension: consumer focus, differentiation, marketing mix, innovation and customer information.

Proposition 1: The adoption of a value chain model requires a market orientation across the chain.

The interviews revealed that most WoolConnect woolgrowers have very limited consumer focus, in the terms defined in the research, irrespective of whether they had delivered wool to WoolConnect to date. Overwhelmingly these woolgrowers demonstrated a broad *generic* appreciation of the trends in the auction market, reflected in auction prices and auction reports of trends in demand over time, such as the higher auction returns for finer wool. They almost universally see their customers in terms of a country, such as China, and the use of their wool as a broad product category, such as

apparel. There is almost no up to date appreciation of the diversity in consumer markets. However, a common comment through the interview process was the value producers now attributed, as a result of their experience in WoolConnect irrespective of whether they had supplied wool or not, to direct feedback from vertical chain partners. In particular feedback from hosiery manufacturer Humphrey Law, on the wool quality factors that affected his manufacturing process, notably specific quality issues such as the impact of contamination on end product appearance or wool tenderness on the number of yarn breaks during the knitting process was valuable. This type of specific feedback does not occur through the auction process. “Nobody ever told us how our wool performed before” was a common response. The interviews also revealed that on farm production decisions and management decisions were largely a response to growers’ perceptions of their own production possibilities in the light of their available resources (largely soil and environmental factors), rather than a response to specific consumer information to which producers traditionally have had no access. In other words they were production rather than market driven.

Result: The customer focus (customer orientation) of WoolConnect woolgrowers is *Low*.

The *chain manager* as the coordinator of wool supply on the one hand and the manager of the wool flow with vertical chain partners on the other, demonstrated a high degree of consumer focus on all five framework categories. The chain manager, also a woolgrower, has developed the skills and capabilities to appreciate the nuances of consumer demand reflected by potential customers at the apparel or textile manufacturing level, as well as through the early processing stages of topmaking and spinning. These skills seem to have been acquired through close contact with chain partners to secure opportunities for WoolConnect as well as managing the logistics of wool movement through the chain. This hands-on approach has led to a great increase in efficiency (see Propositions 2 & 3 under the chain management dimension). This information is used also in negotiations on pricing of various specifications of yarns, a different language than that employed in traditional woolgrowing, as the right hand column in Figure 3.2 (p59) illustrates.

Result: The customer focus (customer orientation) of WoolConnect Ltd's chain manager (the manager of WoolConnect's operations) is *High*.

In contrast, the *Executive* of WoolConnect, responsible for overall management and leadership of WoolConnect Ltd does not reflect quite so clearly the same strong customer orientation, or level of understanding of the wool chain, as does the chain manager. Their collective response at interview was similar to the general run of woolgrower responses and probably reflects their appreciation of their fiscal responsibilities under Australian securities legislation for WoolConnect Ltd as a corporate entity. (the executive includes woolgrowers with professional legal and accounting experience as well as commercial management experience). However there are differences of view on the executive on key management issues, such as supply management (see later).

Result: The customer focus (orientation) of WoolConnect Ltd executive was *Low to Medium*

Each of the intermediate wool processors, the *topmaker* and *spinner*, showed a higher degree of customer focus or customer orientation given their respective positions in the chain and the traditional 'silo' nature of communication in the wool business, which is commonly seen as transactional rather than collaborative. These intermediate processors provided a service role to WoolConnect by contract processing the wool. However at interview they each demonstrated a traditional transactional (win-lose exchanges; concern at providing too much information to customers who might use it against them, or to take unfair advantage of information provided; concern claims might be made for taking the initiative, etc). On the other hand each company demonstrated an interest in innovation in new product development, particularly in terms of using their core competencies and the tacit knowledge and skills of experienced employees to capitalise on opportunities which were unlikely in each of their Chinese facilities. These issues recur across the various dimensions of the framework and are also discussed in Chapter 7.

Result: Intermediate processors customer orientation (focus) was Medium to High

The *hosiery manufacturer* (Humphrey Law) demonstrates strong customer orientation on all parameters. WoolConnect provides Humphrey Law with a superior yarn product which aligns with the delivery of its own branding strategies, such as identification with Australian-made wool and superior (relative to Chinese) product characteristics (softness to touch, longer wear, innovative products such as the ‘health’ sock and uniquely engineered workman’s socks that had emerged from in-house innovations based on consumer research. Humphrey Law recognised the WoolConnect yarn as a ‘good’ product, even if more expensive than competing suppliers (namely yarn from Macquarie). This yarn supported Humphrey Law’s new product development strategies, including the development of products with consumer appeal, such as softness to touch. Affirming the consumer focus of WoolConnect management, apparel manufacturers’ common response to the WoolConnect offer was “Nobody ever asked us what we wanted before”.

Result: Customer orientation (focus) of Humphrey Law was *High*.

Retailer David Jones Ltd stressed its priority is to deliver shareholder value, rather than customer value, and therefore relied on a marketing strategy that focussed on brands that had high customer recognition to deliver value propositions to consumers. As such woollen products feature in their range as essential requirements, for example, in men’s suits (“it would be unthinkable not to have men’s woollen suits or women’s fine woollen knitwear in our range”) but their marketing is linked with fashion houses such as Zegna. Humphrey Law hosiery was identified as the ‘health sock’. The retailer did not in any way demonstrate any whole-of-chain awareness, commitment or interest, especially with a small manufacturer such as Humphrey Law; although a stronger marketing relationship occurs with larger suppliers such as Country Road. In this chain then Humphrey Law’s branding strategy is the expression of the consumer’s value proposition based on its own market research and which Humphrey Law articulates to WoolConnect Ltd.

Result: David Jones consumer focus (orientation) was *Medium to High*

General conclusion

WoolConnect delivers superior customer, and ultimately consumer, value by providing apparel manufacturer Humphrey Law with a superior wool yarn by selecting wool from its woolgrower members to a defined specification. The interviews demonstrated there is a strong customer orientation across the chain but mainly reflected, at this early stage of development, in the two way exchange between the WoolConnect Ltd chain manager and the principal of Humphrey Law. The WoolConnect yarn is seen to have a quality focus rather than a price focus resulting in superior manufacturing performance over wool from the same average micron range through the auction process. This yarn provides the outcomes Humphrey Law has identified as providing superior consumer value; they are softer, better quality, don't shrink, wear well and feel good. While competitive price is an important issue, the quality of the WoolConnect wool appears to moderate the price effect with Humphrey Law. The intermediate processors merely process the wool on a toll basis to specifications defined by WoolConnect Ltd.

Discussion: Proposition 1

At the WoolConnect chain's current stage of development, market orientation across the chain centres largely on the chain manager and the apparel manufacturer who each have a clear perception of the value WoolConnect product can deliver to consumers. This is consistent with research recommending that chain members should play a part in generating intelligence pertaining to current and future end-user needs, disseminate this intelligence across the chain, and respond on a 'whole-of-chain' basis (Grunert, et al, 2005). However these customer focus categories activities do not have to be evenly distributed across the chain, recognising the important roles of various chain partners in delivering consumer value. Clearly the commercial relationship between WoolConnect Ltd and Humphrey Law is the demonstration of effective implementation of a value chain model. This is not to suggest there is not room for improvement. *In these circumstances the proposition is supported.*

6.1.2 Chain Management and Leadership

The following two propositions together cover the dimension of chain management to deliver efficient and effective outcomes by addressing the following four categories: the industry context, chain value, chain leadership and management, and supply management. Proposition 2 concerns the achievement of efficiency with this business model, that is, through cooperation and collaboration. Proposition 3 is concerned with effectiveness and the specific aspect of the central management and coordinating role of the focal business, WoolConnect Ltd and the chain manager, specifically addressed under category 3, namely chain management and leadership.

Proposition 2: A cost-efficient value chain depends on effective cooperation and collaboration between chain partners.

Proposition 3: Value chain effectiveness requires a coordinated focus through a focal chain business or chain captain.

WoolConnect Chain Management: How does it work?

The WoolConnect chain management approach has been to secure customers at the apparel or textile manufacturing end of the chain and then look to its members for wool that meets the required specifications. This ensures the chain is demand led. To clarify the logistical arrangements, WoolConnect Ltd, through its chain manager, manages the chain logistics in response to orders, in this case from Humphrey Law. Suitable wool is first identified among WoolConnect members and the movement of that wool is managed through the early processing stages to ensure timely delivery of yarn that fully meets Humphrey Law's requirements in terms of consumer focussed product outcomes. Under this value chain model these wools do not pass through the auction process and consequently are not purchased by intermediate processors and blended with lower quality wools to meet specific price outcomes. Arrangements have been made for contract topmaking and spinning, initially with Australian processors and subsequently with processors in China, to produce yarn to the specification required by customers and specifically, in this study, by Humphrey Law. Financial and market risk is managed by WoolConnect Ltd in conjunction with Humphrey Law through progressive payments as

wool moves through the chain; an initial payment as the wool leaves the woolgrower/broker's hands, and subsequently as each value adding step is completed.

What have been the outcomes?

WoolConnect Ltd, mainly through its chain manager, has managed the chain to deliver customers' requirements. This has reduced the changes of ownership of the wool through the processing chain (from many to two), and the wool processing and delivery time from, typically, 22 months to three or four months. Consequently WoolConnect management arrangements have resulted in improved efficiency outcomes in terms of chain costs, and improved effectiveness outcomes in terms of product quality and value. Consequently wool accepted through the WoolConnect chain attracts a premium of some \$1.50 to \$2.00 per kilogram plus an administrative margin for WoolConnect operations. This is a reflection of the efficiency of the chain model and the superiority of the product. Consequently wool growers are keen to supply wool if they have it available and cash flow concerns can be managed.

Supply management has been an issue for the WoolConnect Executive. Member woolgrowers identified this as a management issue for WoolConnect management. At the time of interview supply management was an issue for WoolConnect Ltd, partly because of the impact of the drought and the amount of tender wool being produced, and partly because a more effective communication arrangement between WoolConnect growers and management had yet to be implemented.

As a virtual organisation, WoolConnect relies on modern electronic communication but the uptake by farm businesses in the WoolConnect chain has been slow, exacerbated by remoteness and access problems and the state of on-line training of business managers. Communication supporting chain transparency is an important chain management issue. The demands of the drought, including survival, also appeared to limit the immediate priority of WoolConnect for many growers.

Interviews were conducted with the early stage processors who do not take ownership of the wool and were therefore not full chain partners in a value chain sense. However they are critical contributors to chain performance. Each had established effective relationships with either WoolConnect in the case of Riverina Wool Combers, or with both WoolConnect and Humphrey Law in the case of Macquarie Textiles, to process wool. They each had particular concerns about the costs of processing small runs and the potential risks with toll processing if the wool is damaged, during the Superwash process for instance, and a claim is made which far outweighs the processing fee. However both processors recognised the efficiency and effectiveness of the WoolConnect model and its reliance on effective coordination.

In the case of Humphrey Law supply management is a major issue. The demands of retailers for re-supply, often at short notice, are an ongoing concern for Humphrey Law who cannot afford the problem of a 'stock-out' with the potential for retaliation. Humphrey Law was concerned about WoolConnect's move of processing to China, which had just commenced at the time of interview. In fact Humphrey Law had placed an interim order with Macquarie Textiles for yarn to insure against a supply shortfall. WoolConnect had responded by passing on an unexpected cost saving in processing fully to Humphrey Law. While this was queried by some in WoolConnect, it demonstrates the commitment to the relationship and builds trust. The concerns about stock-outs were not addressed with David Jones Ltd.

Specific findings: Chain effectiveness and focus

The interview results for woolgrower members as well as for other chain partners demonstrated that Chain Leadership and Management was seen as a strength of the WoolConnect initiative, particularly the leadership and ongoing operational management activities of the chain manager, but also the leadership of the WoolConnect Executive which has proved effective and well supported by members in terms of participation (these are contested elected positions) and commitment. There are strong business management skills on the WoolConnect Ltd Board. WoolConnect woolgrower members who were interviewed, despite their reliance on the auction system for disposal of the

bulk of their wool, almost universally supported a chain approach to wool marketing although, for most, relatively small quantities have been supplied to date through WoolConnect. “The way the industry has to go” was a common comment. For example, no members have resigned or asked for their funds back. All of these woolgrowers initially committed financially to the WoolConnect initiative largely because of the vision originally articulated by the chairman of WoolConnect, and supported by the committee of the Boorowa Merino Breeders Association, of which the chain manager was the chair. After some six years of operation the interview results indicate that commitment by growers to a chain based strategy appears largely intact, both for the future of the industry and to improve their own returns. However, the members of WoolConnect are not a homogeneous group with some taking a narrow view focussed on improved returns, which WoolConnect provides, while others take a longer term view.

Result: WoolConnect grower support for the chain initiative in term of its benefits on an industry or business basis is *medium to high* and *very high* for the coordinating role of WoolConnect Ltd and the vision of the business. Supply management is an issue deferred to the executive by growers. The growers as a group defer the operational management issues to the elected executive, including the chain manager, while giving verbal commitment to the chain but do not at this stage demonstrate a commitment to the operation of the value chain over traditional trading relationships in their individual businesses. The consolidated situation on woolgrowers’ overall chain development for the specific categories covering chain management and leadership is *low to medium*, with variation by individual woolgrowers in each direction.

The WoolConnect Executive recognised the opportunity a value chain provided to deliver improved efficiency from its inception and has successfully implemented efficient logistical management arrangements, in part by building on existing delivery arrangements with brokers. Supply management is an ongoing concern which the executive has addressed with the development and roll-out of an improved information system with growers which is currently being implemented. The Executive demonstrated

high performance in the pursuit of efficiency and effectiveness outcomes subsequently implemented effectively by the chain manager.

Intermediate processes as service providers to the chain each recognised the valuable coordinating and chain management role implemented by WoolConnect which directly impacted on their processing activities and they were effective service providers to the chain while maintaining a transactional business model. Their contribution to chain efficiency and effectiveness outcomes was medium to high.

Humphrey Law placed a medium to high value on the chain approach and chain management since it delivered efficient and effective outcomes. There were concerns about supply management as processing moved to China. His contribution to chain efficiency and effectiveness outcomes was medium to high.

David Jones was not applicable to this discussion as their focus is largely on the brand.

General conclusion

WoolConnect chain partners demonstrated in the responses to the questionnaire or discussion framework quite strong support for the value chain vision to deliver chain efficiency outcomes and also to achieve better market outcomes for woollen products. Chain communication and transparency is an important management issue for effective and efficient value chain performance. At the time of the study, the delay in rolling out a planned communication platform was a deficiency in the performance of WoolConnect, particularly in regard to effective supply management. This communication platform aims to extract from woolgrowers their planned shearing times and, through agreement between woolgrowers and the Australian Wool Testing Authority, the provision to WoolConnect of wool test results. Most woolgrowers have limited internet skills and are located in areas with poor internet access, factors hampering chain communication.

Discussion: Related Propositions 2 & 3 on chain management and leadership, coordination and chain focus.

The WoolConnect chain is well led and managed with a competent chain manager who appears to demonstrate, from interviews with all chain partners, many of the qualities

identified in the literature (Table 3.4, p80 above) as desirable qualities, both inherent and acquired, for the role of chain manager. The WoolConnect Executive provides guidance to the chain manager in implementing decisions. The development of WoolConnect is moving through the stages identified in Table 3.3 (see p79) as an example of alliance development. The development has depended heavily on the chain manager on the one hand, and Rob Law of Humphrey Law on the other, and the relationship between them. Rob Law demonstrates considerable organisational management skills and a commitment to the chain benefits. This is a model more generally for the creation of chains involving a number of processing steps, showing the importance of promoting strong relationship development with selected businesses across the chain.

The chain manager also coordinates cost effective supply chain management on behalf of growers and users of the end product. This chain structure has sharply reduced the processing time and changes of ownership in the chain and provided innovative risk management to the satisfaction of chain partners. As indicated there is room for improvement in supply management of raw material through improved communication systems. *In general there is strong support for propositions 2 and 3, in short, the efficiency and effectiveness of the WoolConnect chain has been advanced through cooperation and collaboration between chain partners, largely by the efforts and vision of WoolConnect Ltd and its chain manager, initially by building the chain and subsequently in the continuing management of the chain processes.*

6.1.3 Chain Relationships

Introductory comments

The development of relationships as commercial assets and the basis for future growth is the essence of the value chain approach. This asset building begins with collaboration at the horizontal and vertical levels and involves the commitment of personal and financial resources, the exchange of information and the development of trust. The discussion framework addressed the relationship foundation and development, both at the vertical and horizontal level, the shared vision for the chain, the perceptions of trust, and the delivery of value through these relationships. The five categories identified to explore

the Chain Relationships dimension were; chain foundation, trust, strategic vision, potential asset and horizontal relationships. Relationship development supports other chain outcomes such as chain efficiency and effectiveness.

Proposition 4: A value chain model involves the development of strong relationships with chain partners.

Specific responses

The interview responses demonstrated the developmental nature of the chain. The supply of wool to WoolConnect at the time of interview had been limited to one-third of the member woolgrowers. There is limited development of the horizontal relationships, the woolgrowers provide the only horizontal relationships in this chain, with no demonstrable experience of partnering at the horizontal level. Attendance at WoolConnect Ltd meetings is limited to about one third of wool producers, suggesting the chain development is not a strategic priority for most businesses. This could be a concern for future supply management and commitment as the number of customers expands, but this does not seem a current concern for the effective operation of the chain. The focus of WoolConnect management has been on the demand side of the chain rather than the supply side while recognising the differing roles of woolgrowers as suppliers on side and shareholders on the other. The executive demonstrated a difference of view in regard to the treatment of suppliers, who are also WoolConnect shareholders, as purely suppliers or owners of WoolConnect Ltd. A number of interviewees professed ignorance of the broader membership, again demonstrating the lack of horizontal network development.

Relationship development at the vertical level has been limited with some members participating in visits to the topmaker, Riverina Wool Combers, and feedback from manufacturer Humphrey Law at a workshop with woolgrowers. This experience is reflected in the interview results. As indicated previously, the effective vertical relationship development has been between the WoolConnect chain manager and the Humphrey Law principal, Rob Law. This would appear to be the key chain relationship where there is a developing appreciation of the respective business cultures of

woolgrower and hosiery manufacturer and the factors that are important to each. Consequently mutual trust is slowly developing but with continuing sensitivities over supply commitments. There is no disagreement on the quality of the product.

Effective working relationships were developed with the topmaker and spinner in Australia. Relationships have now been developed with the two intermediate processors, the topmaker and spinner, in China. The chain manager has revisited China recently to further build relationships. The relatively small quantities processed limit opportunities for strong commercial or chain relationships at these levels, although interview reports demonstrate the interest in chain innovation at the topmaker level. These relationships do not appear, on the evidence, to involve any substantial chain commitment.

The common vision among horizontal partners is largely on improved returns rather than any clear articulation of a vision which provides the basis for WoolConnect to differentiate itself in the market. The issue of trust is shared horizontally mainly because it is recognised that the demand for wool by WoolConnect to date has been small and the opportunity for all members to participate in the supply of wool has been limited. The Executive, almost all of whom have supplied wool, are sensitive to any concerns about benefits being shared among the broader membership. Retailer David Jones is not in any sense currently a chain partner.

Discussion: Proposition 4

The development of chain relationships is largely limited to the relationship between the vertical partners, WoolConnect Ltd and Humphrey Law. Initial engagement with early stage processors were largely transactional, although Riverina Wool Combers took a strong interest in the development of WoolConnect and that led to improved relationships for them with other potential customers. The move of early stage processing to China has again been largely on a transactional basis although an ongoing relationship is slowly developing involving the operational activities of the chain manager. The chain relationship at the horizontal level among growers is comparatively undeveloped. This area requires substantial improvement if the chain is to develop innovative new product

offerings. Vertical relationships through the chain are well developed, particularly between WoolConnect Ltd, which is the “focal’ company in this chain, and hosiery manufacturer Humphrey Law. The longer term success of the chain requires continuing development of chain skills and capabilities, including relationship skills. Significant chain learning at the producer level is required along the lines demonstrated with the New Zealand Merino Company in Chapters 2 and 3. Results of interviews on the relationship dimension which are shown in Table 6.1:

- Woolgrowers demonstrated *low to medium* development on the categories discussed.
- WoolConnect Ltd has demonstrated *medium to high* priority to relationship development through the chain, particularly through the activities of the chain manager.
- Intermediate processors relationship development is largely transactional (*medium*)
- There are strong relationships with Humphrey Law, particularly at the management level (*high*)
- There is no chain relationship development with the retailer (*not applicable*)

Proposition 4 is supported by the case study but there is much potential for continued relationship development.

6.1.4 Chain Skills and Capabilities

Introductory Comments

The creation of consumer value through a value chain approach depends on assembling core capabilities across the chain, and using the skills and resources of various chain partners to drive growth and innovation. The research on organisational learning and social capital formation was used in Chapter 3 to suggest that value chain development is a new learning process for producers in traditional commodity sectors.

General comments

The research literature (Gow et al, 2002; Grunert, 2005; Sporleder & Moss, 2002) suggests development of chain capabilities is likely to become an increasingly important issue as the number of customers expands and the supply of suitable wool to meet new or innovative products developed by the chain is required. The development of the

information platform to improve communication between WoolConnect Ltd and its members, as outlined previously, can be expected to increase knowledge transfer between chain partners and build social capital, particularly through the development of chain relationships. At the current stage of development of the WoolConnect chain the benefits of social capital development across the chain are not fully appreciated. The three categories within this dimension are capabilities (their recognition by chain partners), capability investment and partnering capability.

Proposition 5: The development of value chains involves the development of chain skills and capabilities across the chain.

Specific responses

The interview results provide a mixed message on capability development across the chain but generally demonstrated limited development of chain capabilities, limited investment by chain partners in building chain capabilities and limited knowledge or experience of partnering as a capability. Specifically, at the woolgrower level, the interviews demonstrated there is some recognition of the capabilities of other members, but mainly as competent producers rather than as chain partners working together to deliver consumer value. This attitude is partly explained by the very small proportion of wool passing through the WoolConnect chain currently and the lack of an effective communication platform. The strategic priority attributed to WoolConnect by its woolgrower members is generally low, with most wool committed to the traditional auction process. Hence individual investment in chain capability building activities does not have a priority with most woolgrowers at this stage. This is partly explained by WoolConnect Ltd focussing its chain building priorities on building the demand side of the chain which is perceived as the area of greatest learning for WoolConnect Ltd. For woolgrowers to date the priority has been to provide suitable wool, a demand on their traditional core capabilities. But there is strong commitment articulated by growers as demonstrated in other dimensions indicating there has been some learning. Woolgrowers see themselves as between the two extremes identified in the discussion framework in term of their chain development and learning.

Discussion: Proposition 5

The WoolConnect chain does not reflect strong development of chain capabilities and learning with the focus in this area on WoolConnect Ltd management, particularly the chain manager and apparel manufacturer Humphrey Law. Each of these has developed a level of chain skills and capabilities through their respective chain building activities and would each be assessed as medium on the criteria used. This is consistent with the findings of *Proposition 1* concerning consumer focus where the issue of market orientation is largely between the two organisations. Communication is partly a key to improved chain skills and capabilities, particularly at producer level where traditional practices and a culture of individualism mitigate against sharing of information and knowledge on a continuing basis. Hence the assessment of a consolidated low performance on the criteria employed for this dimension. To date that has not been an operational concern for the reasons provided. The intermediate processors provide services to the chain on a transactional basis which is the essential nature of their business, despite the cooperative relationships with WoolConnect. Hence their respective chain skills and capabilities are low. David Jones Ltd did not demonstrate any chain building skills or orientation with the WoolConnect chain.

WoolConnect recognises the development of a communication platform is a key to better management of the chain, including better managing the supply of wool to meet emerging orders and increasing engagement with woolgrowers as demand increases. *Proposition 5* is supported at the operational management level between the two organisations, WoolConnect Ltd and Humphrey Law, where the development of chain skills and capabilities has been substantial, mainly through chain learning. There is likely to be substantial benefit in the future by building chain skills and capabilities at the producer level if new product formats are involved.

6.1.5 Chain Rewards and Risks

Introductory comments: Chain Rewards

The success of a chain initiative depends on its ability to realise improved outcomes, particularly financial outcomes for all chain partners. These can arise from

improvements in cash flow (increased, earlier or less volatile cash flow); the development of stronger relationships through the chain to enable exchange of information and, related to that, learning and innovation to provide benefits to the firm over time, such as new product development opportunities or improved systems and processes. The three categories identified under the chain rewards dimension were cash flow, customer relationships, and learning and innovation.

Introductory comments: Chain Risks

On the other side is the question of the risks involved in a commitment to a chain approach and whether they are acceptable risks and manageable in terms of the benefits achieved. The risks identified concerned the risk that chain partners will not invest in developing chain capabilities; that the potential risk of financial loss is managed and transferred; that relationships are managed to avoid conflict with other customers; and that production risk in terms of climate or other supply impacts, such as the necessity for processing overseas, are addressed. This dimension identified four categories of risk: capability development, chain (financial) risk, relationship risk and production risk.

Proposition 6: The development and growth of value chains involve recognition and management of the risks and rewards involved in chain participation.

Specific responses: Chain Rewards

The interview results show appreciation by woolgrower members on the potential benefits of WoolConnect. Those woolgrowers that have provided wool to WoolConnect have all benefited through improved returns that are demonstrably superior to the prevailing auction prices from equivalent wool. These financial benefits have been of the order of 15-20 per cent on a \$/kg basis, plus an operating margin for WoolConnect Ltd, which ‘all goes to the bottom line’ in the eyes of producers, who face no additional costs from participation in WoolConnect.

Positive responses were brought out on the intangible benefits of the value chain approach, namely relationship development and innovation and learning. The key chain

partners, the chain manager and Humphrey Law, rated the benefits highly on all three parameters, namely, cash flow benefits, relationship benefits and learning and innovation benefits. The intermediate processors also saw benefits from their involvement with the chain in terms of relationship development and innovation and learning, although the financial benefits in these cases were limited by the small volumes of wool involved. Together, these benefits, although small to date, continue to support a value chain approach for those who have made these commitments to WoolConnect.

Specific responses: Chain Risks

The interview results indicate a fairly positive awareness of the risk issues across both the horizontal and vertical partners of WoolConnect. Woolgrowers declared preparedness to commit more time, training and funds to build chain capabilities, recognising that in most cases commitments to date have been fairly small.

Financial risk is a significant issue with woolgrowers, as traditional commodity traders, but at the level of transactions to date this has not been a major concern as growers have been paid either fully, or half their price, when the wool leaves the wool store. The WoolConnect management has generally managed the chain, as indicated previously, to achieve progress payments as the wool moves through the chain. Humphrey Law, for its part, trusts key suppliers to meet their financial commitments and this is the basis for long term relationships with those key suppliers, not only for wool but also for cotton, nylon and machinery orders.

Relationship risk with traditional brokers has not figured as an issue for woolgrowers because their brokers still handle their wool and receive a commission for wool passing to WoolConnect. This was an important policy decision by WoolConnect from the beginning. Humphrey Law has continued to source some yarn from Macquarie, which had previously been its major supplier, mainly to ensure continuity of supply when processing was transferred to China. Production risk is mainly an issue for ongoing supply of wool to specification, and for the WoolConnect Executive, in particular, to manage. This has been difficult during recent droughts with much tender wool produced.

The interview results indicate that risks and rewards are recognised and managed across the chain with particular responses in various situations. WoolConnect had to deliver a return to growers over the spot market and this is an incentive for growers to participate. There is a concern about being paid but WoolConnect Ltd has commercial arrangements which limit financial exposure in the face of fluctuations in the wool market. Arrangements with brokers to maintain commissions for handling wool has ensured relationship risks are managed. Supply management has been identified under various categories as an issue and WoolConnect has arrangements to manage supply shortfalls. When challenged all chain levels speak positively about chain learning. However the risk of failing to invest in capability development has not been recognised. For the intermediate processors the financial cost of smaller production runs and potential risks of damages is outweighed apparently by the learning and wider industry relationships and intelligence developed by anticipating in these innovations. Humphrey Law added that financial risk management with suppliers was managed on the basis of trust in the commercial relationship. Apparently reputation is also involved. The coordinated results for this dimension are shown in Table 6.1.

Discussion: Proposition 6

The issues of risks and rewards is an issue which businesses in the wool chain are well familiar because of the volatility of the auction market through which over 80 per cent of Australia's wool is sold. Concerns about payment were reflected in the interviews, although there was limited appreciation of the intangible benefits and intangible risks by many in the chain, including woolgrowers. In fact it was interesting that intermediate processors saw most benefit in involvement with these small initiatives because 'we might miss out on something' and their concern about the 'silo mentality' in the wool chain. In conclusion, *Proposition 6* appears to be moderately strongly supported.

Table 6.1 General Summary of Consolidated Results by Dimension and Chain Participant

<i>Dimension by chain participant</i>	Customer Focus	Chain Management/ Leadership	Relationships	Chain Skills and Capabilities	Risks and Rewards
Woolgrowers	L	L-M	L-M	L	M
Chain Manager	H	H	M-H	M	M-H
WoolConnect Ltd	L-M	M-H	M	M	M-H
Topmaker	M-H	M-H	M	L	M
Spinner	M-H	M-H	M	L	M
Hosiery Manufacturer	H	H	H	M	M-H
Retailer	M-H	N/A	N/A	N/A	N/A

6.2 Conclusions

The purpose of this chapter has been to review the experience of WoolConnect, as an example of a developing value chain initiative, against the propositions developed from the literature which this research identifies as underpinning a value chain model. A value chain model requires cooperation and collaboration among businesses across the chain to deliver superior value propositions to consumers. The essential criteria involve a strong consumer focus across the chain, efficient and effective chain management to deliver customer value propositions, development of productive relationships with chain partners, and the development of the necessary chain skills and capabilities by all chain participants. The rewards and risks of a chain based business model need to be identified and managed. As the literature demonstrates, the value chain model involves harnessing the core competencies (production, marketing, management and chain competencies) of businesses across the chain to deliver that value to consumers.

The analysis of WoolConnect demonstrates a value chain in development where the chain activities have been modest in relation to the main activities of the businesses involved.

The success of the chain, to which members demonstrate a strong commitment, irrespective of their opportunity to deliver wool through the chain, has turned on the development of the demand side of the chain and the leadership, management and relationship of WoolConnect Ltd, particularly the chain manager of WoolConnect and the principal of Humphrey Law. The activities undertaken to date have been profitable for woolgrowers in terms of farm gate returns and this benefit underpins the operation of WoolConnect as a virtual organisation. There have also been intangible benefits and financial risk has been well managed.

The building of stronger relationships and commitment at the producer level depends on greater quantities of wool being supplied through WoolConnect. This is starting to happen with WoolConnect now having four apparel manufacturers as customers. The implementation of an effective communications platform, primarily to manage wool supply by linking Australian Wool Testing Authority results with WoolConnect, is underway and will assist relationship and skill development at the grower level which clearly has not been a priority to date. Closer alignment among key vertical chain partners and woolgrowers along the lines of the New Zealand Merino Company (see Chapter 3) will assist chain building activities. But the research demonstrates that WoolConnect is a learning chain, perhaps an essential feature of this business model.

Chapter 7

Discussion and Conclusions

7.1 Introduction

The purpose of this research is to provide a new perspective on the application of a value chain management approach in the Australian pastoral sector, where businesses operate largely under traditional commodity marketing arrangements. It also provides information for those who wish to take greater responsibility for the marketing of their products by introducing the concept of a value chain business model. The research literature, drawing largely on advances in business practice in a wide range of industries, provides valuable perspectives to explain value chain management from an array of business and marketing theories.

There is a gap in the literature in terms of normative approaches for the development of a value chain approach or assessment tools to assist value chain managers in complex food and fibre chains such as are found in the pastoral industries. Various conceptual models have been developed in recent years to explain supply chain development and management within individual businesses, between businesses and for various industries. This research is based on a conceptual model developed by reference to published research and from business cases in the food and fibre sector. On the basis of published literature a number of propositions are advanced as critical factors for successful value chain development in the food and fibre sector. These propositions are used as the basis for assessing the extent of chain awareness and development in a specific case.

The research applies case study methodology to an emerging wool value chain. A protocol was developed to guide the case study with the facilitation interview guide providing the basis of a proposed value chain assessment tool. The discussion guide focussed on the areas identified in the research literature and evident from business

practice, namely, customer focus or customer orientation across the chain; the development of chain capabilities among chain partners; chain management issues; and the development of chain relationships. The interview guide also addresses the perceived risks and rewards for partners in the chain. Interviews were undertaken at the horizontal level among producers as well as with vertical partners to assess the level of chain awareness. Chapter 6 assessed the results against a number of propositions addressing the critical factors for successful chain development identified in previous chapters.

7.2 Discussion

7.2.1 Limits of the WoolConnect Chain

The WoolConnect value chain is still in an early process of development. Woolgrower members of WoolConnect still sell most of their wool by traditional auction and foreseeably will always participate to a greater or lesser extent in that market. To date the volume of wool required by WoolConnect has been small with only a third of woolgrower members having the opportunity to supply some wool. Consequently, for most woolgrowers WoolConnect does not figure strongly in their current business portfolio. This small throughput has limited the incentive for woolgrowers to strongly develop their customer focus, to invest time and resources in building chain capabilities and to be more active in partnering with other woolgrowers or participating in more WoolConnect activities. While woolgrowers have made a small financial commitment to WoolConnect (and they are now shareholders in the new entity, WoolConnect Ltd), the main activities of WoolConnect have been left to the management team, in particular the current chairman/chain manager, in whom the members interviewed generally demonstrated strong confidence and trust.

The key chain relationship at this stage of WoolConnect's development is between the chain manager and Humphrey Law. The chain manager is seeking to develop new business and three new customers have recently established commercial relationships. Currently the chain manager is also responsible for the day-to-day operational management including coordinating arrangements with intermediate processors in China.

His skills and commitment have initiated chain management outcomes delivering returns superior to the auction market through a far more efficient chain operation. This result gives woolgrowers an incentive to maintain their commitment to the WoolConnect chain.

7.2.2 Opportunities for Further Development of WoolConnect

Clearly there is an opportunity to build the social capital of WoolConnect through bringing greater chain awareness to woolgrowers and developing their strategic vision and commitment. Extending the range of customers will do much to increase member engagement, and hence feedback, which the interviews with woolgrowers identified as a significant benefit of the chain approach. A more effective communication platform will also do much for supply management for the expanding range of customers and also to build social capital to strengthen the horizontal alliance as demonstrated in research on the New Zealand Merino Company.

The relatively undeveloped horizontal alliance among WoolConnect members has not affected chain performance to date. The research literature suggests the future ability of the chain to respond to innovation in product offerings would require greater collaboration between wool producers offering those product attributes and the chain partners involved. Such offerings could include provenance attributes, such as organic wool or wool from non-mulesed sheep, or other responses to consumer preferences as suggested in Table 3.1. Wool producers will need to work together in future to ensure adequate supplies of wool meeting customers' specific requirements. There is a large potential commercial advantage in building social capital across the chain.

7.2.3 Chain Relationships among WoolConnect Partners

The case study research suggests that not all members of the chain need to demonstrate all the dimensions of the conceptual value chain model. However it does appear that the crucial chain partnerships at this early stage occur between the chain manager (chain captain) and the key customer identified in this case, namely Humphrey Law, the hosiery manufacturer. These two partners demonstrate a strong customer orientation; their chain capabilities are still developing but their chain management and leadership is of a high

order; and their relationships are developing as intangible assets for both organisations with beneficial cash flow implications. WoolConnect established a good relationship with Australian intermediate processors and now considers it is developing good relationships offshore with early stage processors in China.

The research provided interesting perspectives on business relationships through the chain. Both Riverina Wool Combers (Chargeur) and spinner Macquarie Textiles, who initially undertook processing for WoolConnect on a commission basis, identified the traditional transactional nature of their relationships and the limited exchange of information that occurred between them. However both organisations learned from the experience. Riverina indicated that small runs for WoolConnect and other similar initiatives were not cost effective to the scale of operations. However engagement with WoolConnect had led to initial contacts with new customers. They were also concerned to keep abreast of industry innovations and cited other examples such as the Escorial Wool initiative referred to in Chapter 2.

Macquarie Textiles indicated that, just prior to interview, they had initiated greater cross functional collaboration within their business to the extent that production department staff now participated with sales staff in meetings with customers. Furthermore Macquarie Textiles had recently commenced a 'Lean Manufacturing' program with other unrelated businesses in Albury. An unrelated engagement with topmaker Fletchers, at Dubbo, had opened the possibility of a broader commercial relationship.

These developments are indicative of a trend in business practice which seems to reflect a response to the dramatic shift to processing in China identified in Chapter 2. Both processing companies undertake processing in China. Both companies provided examples of the concentration of their Australian processing on lower scale high value activities capitalising on the skills and 'tacit knowledge' of their experienced Australian work forces to undertake work involving smaller specialised production runs that each indicated could not be contemplated in China. These are issues which would benefit from closer research and were beyond the scope of this study. However it raises the

question of whether there is an opportunity for companies such as WoolConnect Ltd to build richer and fuller relationships based on greater collaboration among woolgrowers to also engage with early stage processes on specific opportunities. The published research on strategic alliances identified in Chapter 3 contributes to the understanding of the move from transactional to more collaborative relationships.

7.2.4 Capitalising on Chain Capabilities

The structure of the WoolConnect chain centred customer focus on the Humphrey Law brand and the marketing strategies of that company through a range of outlets. As with the food sector there are a large range of retail formats for apparel, the main product of the WoolConnect style of wools. Discussion with David Jones Ltd provided an insight to a retail marketing strategy focussed on the equity of established brands. Humphrey Law is a small but established brand. It was clear that David Jones Ltd was not in any way established as a chain partner of the WoolConnect chain.

7.2.5 Successful Strategic Marketing Alliance

The research shows the WoolConnect chain is generating improved financial returns for participating growers as well as achieving the many intangible benefits from the huge learning experience from the development of the chain. The potential supply management and financial management risks of fluctuating wool markets have each been recognised and managed. Woolgrower support for WoolConnect appears to be contingent on the continued demonstration of results, particularly financial benefits in comparison to the 'spot' market. For some woolgrowers cash flow demands have militated against the option of supplying WoolConnect. Other growers are prepared to store wool in anticipation of demand from WoolConnect. Clearly the woolgrower group is not homogeneous in terms of its many characteristics.

The development of WoolConnect aligns very well with the alliance development model in the strategic alliance literature outlined in Table 3.3. The WoolConnect chain manager exhibits many of the characteristics the literature suggests are required for successful management of alliances. Studies of other wool chains (The New Zealand Merino

Company, TQW, and Yass Merino Growers) indicate a close similarity of experience in chain development. A further longitudinal study of WoolConnect, as its customer base expands and the communication platform is implemented, could provide further insights concerning the identification or confirmation of critical factors for successful chain development. The question for further research is whether the current group is too diverse. It may be better served by focussing on a key group with specific characteristics.

7.3 Management Implications

The move away from traditional commodity marketing with a view to targeting specific customers using a chain based strategy is becoming more common in the Australian food and fibre sector as farmers seek to gain greater control of their businesses beyond the farm gate. This trend also reflects discontent in Australia with traditional industry-based commodity marketing arrangements which appear less responsive to the forces of change. Such chain initiatives in Australia are probably unique in being driven typically by the production end of the chain rather than the retail end, as occurs with many European examples. In the USA chain initiatives appear to be rare, with greater vertical integration and concentration of processing in the agribusiness sector. It could be related to the size and scale of operations of the agribusiness sectors in the country concerned. It seems curious that more intensive chain development research emanates from smaller population countries such as Australia, New Zealand, the Netherlands, and Denmark. For example, networking in manufacturing in the early 1990's in the Nordic countries appeared to be a response to large competitors in neighbouring Germany.

Many horizontal networks of like-minded producers have been initiated across many sectors of Australian agribusiness, including the wool sector, to pursue marketing objectives, with mixed or temporary success. Establishing linkages through the vertical chain has been much more difficult, particularly where intermediate processing is involved, because processing margins can be very tight and economies of scale are important. This leads to early discouragement of producers. Nevertheless, numerous

opportunities for niche marketing and linking with retailers, often specialty retailers or exporters, is not uncommon, particularly in the horticulture sector.

The opportunities for targeting the needs of specific consumers are increasing and whole-of-chain initiatives involving knowledge management are necessary to meet the increasingly diverse needs of specific consumer segments. The purpose of this research is to establish a framework and practical considerations which those embarking on a value chain approach need to consider. The need for this was demonstrated in the AWI commissioned report on the application of the New Zealand Merino Company business model to Australia (TMC, undated) and as a follow-on to the research by Champion & Fearn (2001). An assessment tool along the lines used in this research and modified to specific requirements should assist chain managers to monitor their chain performance as a basis for developing their chain skills and capabilities.

7.3.1 Assessment Tool

This research was also designed to evaluate an assessment tool for use in the evaluation of chain design and development, or to guide chain learning and the development of skills and capabilities, such as enhancing the marketing skills and capabilities of wool producers. This assessment tool (Annex A) was based on the conceptual model which was developed from the research literature and business practice. It follows the model employed by Lindgreen et al (2006) detailed in Chapter 3. The conceptual model draws particularly on theories associated with consumer value, strategic alliances, networks and partnering, supply chain management, relationship marketing, social capital and organisational learning. The model identifies the key factors for successful value chain development as a consumer focus, chain capabilities, chain management and leadership, chain relationships, and the identification and management of risks and rewards.

This research makes it possible to suggest modification of the assessment tool to meet particular elements of chain performance, or as a tool for auditing performance or for designing training or communications strategies. For example, the focus at the *producer level* could have been limited to the following chain awareness dimensions and categories as adapted from Annex A.

Table 7.1: Suggested Dimensions and Categories to Assess Chain Awareness/ Performance of Producers in Value Chain Analysis

Chain Awareness Dimensions	Key Categories in each Dimension	Possible Indicative Factors for each Category
1. Consumer focus	Creating consumer value	Target segment, segment size, category trends, level of competition, unmet needs
	Customer information	Supplier performance system, planning horizon, availability and accuracy, timeliness, analysis tools/capabilities
2. Capability development	Capability investment	Strategic importance, corporate reputation, CEO commitment, resource commitment
	Partnering capability	Partnering experience, partnering reputation, patient investment
3. Chain development	Chain value	Compatibility, capabilities, re-alignment, information flow
	Chain leadership and management	Chain captain, leadership, chain coordinator, chain manager
	Supply management	Available quantity, production risk, quality management, group cohesiveness
4. Relationships	Foundation	History, profit drivers, culture, social bonds
	Trust	Reward sharing, consideration, predictability, opportunism
	Strategic vision	Articulated vision, communicated vision, buy-in, revert-to-type
	Horizontal relationships	Leadership and management, time together, group uniformity, systems and processes
5. Investment risk	Chain risk	Risk management, risk transfer
	Production risk	Climate risk, quantity risk, group risk, system risk
6. Investment rewards	Cash flow	Cost savings, revenue from existing or new customers, margin management, working capital management, fixed asset management
	Customer relationships	Service levels, deeper relationships, access to information
	Learning and innovation	New product development, processes and systems, human resources and culture, benefits over time

(Adapted from “Value Chains: A Project Management and Mentoring Guide”, Agri Chain Solutions, Canberra, 2000)

Similarly, elements of the interview guide could be used more intensively to analyse particular dimensions of chain awareness, such as consumer focus or relationship development. In such a context the assessment tool could contribute to ongoing academic research and for monitoring of chain performance and to assist chain learning, including organisational learning and the development of social capital. This is important to producers in WoolConnect, for example, who will inevitably continue to operate in the traditional commodity market using traditional skills and capabilities.

7.4 Academic Contribution

Most research in supply chain management acknowledges that academia has been following rather than leading business practice, and providing little in the way of theory building or normative tools for business guidance (Lambert & Cooper, 2000). The food and fibre sectors need a better flow of information and knowledge vertically within the supply chain (Sporleder & Moss, 2002). The track records of alliances are poor. Research on alliances has largely been restricted to the dyadic level, rather than to the firm or network level. There have been few attempts to consider the three perspectives together (Duysters et al, 2004).

The broad scope of value chain management based on a diverse range of published literature has limited the depth of analysis of some important themes. A number of areas have been suggested for detailed analysis to improve understanding. Part of this research is necessarily descriptive. The main focus of the research is exploratory, rather than explanatory for the reasons outlined above but it does provide insights into the broad dynamics of a wool value chain to assist further research. As indicated elsewhere, there is a dearth of information on value chain development in the wool industry, particularly more detailed analysis of chain formation and development from an organisational learning perspective. The research by Champion & Fearne (2001) has laid the groundwork on the potential for value chain development but more research on chain dynamics would facilitate management practice in wool and elsewhere.

This research also proposes a conceptual model drawing on various theoretical perspectives, including customer value, market orientation, supply chain management, relationship marketing, social capital, organisational learning and capability development. The resulting model is different to others in focusing on the value creating activities which flow from cooperation and collaboration between chain partners rather than the supply chain management efficiency questions. Particular attention is paid to the social capital building activities across the chain as a way of facilitating cooperation and collaboration for the development of new market opportunities.

7.5 Future Research

Three areas for future research are suggested. Firstly, the WoolConnect value chain is developmental as the case research demonstrates. A longitudinal study of the WoolConnect chain would be beneficial to identify the impact of the new communication platform on supply management and linking chain partners and building relationships. Since this research was undertaken there are now four customers of WoolConnect. The processing relationships in China are becoming better established. All of these developments have implications for the continuing development of chain capabilities as WoolConnect becomes a greater focus for many of its members. Secondly, more detailed research on the relationship between any of the key dimensions identified and the development of the chain could provide useful insights. In particular relationship development horizontally and vertically through the chain and the implications for chain transparency and communication is a critical issue identified in this research. Thirdly, research on the application of the framework and the assessment tool, modified as appropriate, to other active food and fibre chains would help confirm or clarify the critical success factors for value chain development.

7.6 Limitations of the Research

The question that generally arises with a single case study concerns the broader application of the research outcomes. Tactics were outlined in Chapter 5 to address

questions of validity and reliability, including repeatability of the research method employed. Recourse to multiple chains of evidence was one such tactic (Yin, 2003). Reference has been made to other sources of evidence from the New Zealand Merino Company, TQW and The Escorial Company. Interviews were conducted with Yass Merino Growers, another developing chain initiative. This expansion of scope supports the broader application of the model while recognising the developmental nature of the WoolConnect chain as referred to in 7.2.1 (p138).

This study has been framed on the understanding of a close similarity of circumstances across the food and fibre sectors, at least within the Australian context. It is arguable as to whether the findings are transferable across cultures. For example research on the New Zealand Merino Company model found some reluctance by Australian growers to adopt such a model despite its wide acceptance among NZ woolgrowers, as referred to in Chapter 2. Would the same factors apply in other sectors? At the production level the same farmers are producing a range of food and fibre commodities (wool, sheep meats, beef and crops). The research has focussed more narrowly on the pastoral industries where a traditional culture of commodity marketing prevails. Those industries typically involve long vertical chains incorporating one or more intermediate processing steps.

As far as the assessment tool was concerned, this case is the first known case where it has been used and it was thus developmental. Refinements have been suggested for future research or management application for chain development and learning. The main dimensions of the model appear to be well supported by the literature, field experience and the case study. The categories within each dimension could be modified to specific circumstances, along with the related elements of the questionnaire.

7.7 Conclusion

The food and fibre commodities that underpinned Australia's long standing performance as a leading exporter of rural commodities are coming under increasing competitive pressure from lower cost producers, many of them developing countries. However the

liberalisation of international markets is expanding and providing opportunities to target the needs of increasingly discerning consumers in a wide range of market segments. Consumer demands for both food and fibre products cover a wide spectrum of needs and concerns such as food safety, freedom from chemical contamination, animal welfare issues, natural or organic production preferences, product integrity issues, environmental and sustainability concerns as well as superior product outcomes and value for money. Such consumer requirements are forcing retailers to ensure knowledge of the claims about the provenance of products is managed transparently through the supply chain. As a result, chain partners are cooperating and collaborating to identify and meet defined consumer requirements to assist consumer value creation along the lines outlined above.

This research uses the research literature and experience from business practice and learning from government programs to frame a conceptual model to identify factors critical to successful value chain development in the food and fibre sector with particular reference to the pastoral industries.

The research confirmed the centrality of a consumer focus or customer orientation to the success of the chain. There was a clear demonstration of customer orientation across the chain, mainly between the WoolConnect leadership in providing a superior performing yarn to meet defined consumer outcomes. These consumer outcomes were defined by Humphrey Law as the brand manager, with the brand carrying consumer attributes identified in the Humphrey Law marketing strategy. This was clearly communicated to the WoolConnect leadership and acted upon through the close relationship developed between the two organisations. It confirmed the need to maintain commitment to the chain by woolgrowers on the one side and Humphrey Law on the other, providing positive commercial outcomes, even if small, including by identifying and managing the risks and rewards of chain participation.

The success to date with this case centred on the role of the chain captain or manager who played the coordinating role between the horizontal (wool supply) and vertical (processing) elements of the chain and managed the flow of wool, information and

finances through the chain under the direction of the WoolConnect Executive. The role of the product (hosiery) manufacturer in this case was also critical to the development of the chain to ensure the focus on consumer outcomes and to generate demand. The relationship between these two key chain partners, Humphrey Law and WoolConnect Ltd, was critical to the chain's success. The chain captain also ensured the coordination between woolgrowers and brokers, processors and the product manufacturer and to maintain competitiveness by containing costs and eliminating inefficiencies in the traditional wool chain (long processing time and many changes of ownership). It was clear there would be substantial benefits if the chain continued to develop customer focus across the whole chain, but particularly with woolgrower members, as well as horizontal and vertical relationships and chain transparency. The roll out of the chain communication platform would appear critical to further chain development, particularly with an expansion of customers.

At the end of the day value chains are about people. The WoolConnect chain demonstrates the potential of what can be achieved through cooperation and collaboration between farmers themselves and with people in other businesses through the chain. This research provides support to the further development of WoolConnect and others undertaking similar initiatives.

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Case Study Interview Facilitation Guide

This guide provides the introductory remarks to participants and the questionnaire.

Introductory remarks to participants:

“Please consider the Participant Information Statement and, if you agree, read and sign the Participant Consent Form. (These forms were included in the Human Resource Ethics Committee approval)

This is not an evaluation of the performance of WoolConnect or any particular enterprise. I am seeking to understand the impact of a WoolConnect type of operation, or similar marketing approach, on your thinking versus traditional industry marketing, such as through wool auctions. There is no right or wrong answer to each question. I am interested in how managers of businesses at each level of the wool chain view the issues I have identified.

Apart from a broad profile of your business, I am not collecting any financial information. And any comments you make will not be attributed to you without your prior written agreement”.

Profile of each business interviewed will include the following:

- Relative size of the business (for wool producers: sheep shorn annually, micron diameter, hectares farmed, proportion of wool in the enterprise mix and recent and expected changes over time (5 years each way); for processors and retailers: volume of wool processed; apparel sales, etc as provided in publicly available information; trends in wool usage)
- Number of employees; management team (decision makers)
- Complementary business activities (lamb or beef; crops; synthetics)
- Perceived specific capabilities or skills (business or marketing, technical)

Case Study Questionnaire

Parameter	Example of High Chain Awareness (score 7-10)	Example of Low Chain Awareness (score 1-3)	Specific Questions to Participants	Evaluation And Score
1. Consumer focus				
(a) Creating Consumer Value Target segment Segment size Category trends Level of competition Unmet needs	The firm is able to clearly articulate their target customer group, growth trends in the segment, and the gap in the market based on the level of satisfaction with current suppliers	The firm has only a vague notion of their customer segment with little detailed understanding of their needs and situation	Who do you see as the principal customers for your wool products? How do you see current consumer perceptions of wool products? How do you see future demand for woollen goods?	
(b) Differentiation Product differentiation Service differentiation Price advantage	The firm has a well thought out view on how they will differentiate themselves in the market	Any innovation ideas do not seem to lead directly into a differentiated offer in the market	What does your business stand for? What is your point of difference? Or WoolConnect's point of difference?	
(c) Marketing Mix Positioning in the market Product range Pricing policy and strategy Promotion Distribution strategy	The firm has been able to differentiate the needs identified above into a coherent marketing plan	The marketing concept lacks detail and overall synergy	How could the marketing of woollen products be improved? What broadly is your marketing plan?	
(d) Innovation	The firm has a clear view	There seems to be little	What changes/	

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Product Service Process and chain Scalability	of the drivers of innovation that will underpin future growth and profit	clarity on how the chain will keep ahead of the competition	innovations are likely to most influence future growth and profit for wool or woollen products? Is this best managed by an industry body such as AWI on an industry basis? Other models?	
(e) Customer information Supplier performance system Planning horizon Availability and accuracy Timeliness Analysis tools Analysis capabilities	The firm and the chain has access to information from the customer that will help them respond rapidly to their changing needs- performance feedback, demand forecasting, scanning data availability, etc	When it all boils down the supplier is not sure exactly where they stand with the customer and they do not work closely with the customer to better manage demand and inventory	Does retail or consumer information influence your production decisions? What is this information? What market factors influence your future wool production decisions?	

Parameter	Example of High Chain Awareness (score 7-10)	Example of Low Chain Awareness (score 1-3)	Specific Questions to Participants	Evaluation And Score
2. Capability development				
(a) Capabilities Performance Alternatives Capability gaps Capability boundaries	The firms involved are clearly high performing – the alternatives are inferior The capability boundaries are delineated and there are few capability gaps	This looks more like a collection of firms based on convenience, with significant capability gaps and fuzzy boundaries	Is there a common thread about the capabilities of businesses in the WoolConnect membership e.g. how they see/relate to each other?	
(b) Capability investment	It makes strategic sense for all firms involved to	The chain, at best, is peripheral to the core	Is there a strategic or business priority for your	

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Strategic importance Corporate reputation CEO commitment Resource commitment	invest in capability development. The CEO (owner) is committed to the project, which is central to the firm's future	strategies of the firm(s) involved. Resources are likely to be limiting	business in WoolConnect? What commitment has your business made to this initiative?	
(c) Partnering capability Partnering experience Partnering reputation Patient investment	The firms involved have a strong track record in, and reputation for, partnering. They will patiently build this chain	This is all new to the participants in this chain. It is likely that mistakes will be made in the early stages which will place pressure on the participants	See above. Is there a history or priority in networking or partnering among WoolConnect members?	

Parameter	Example of High Chain Awareness (score 7-10)	Example of Low Chain Awareness (score 1-3)	Specific Questions to Participants	Evaluation And Score
3. Chain development				
(a) Industry Context Trends New ways of doing business Leadership	The chain strategy is consistent with trends in the industry. It is widely accepted this is the way successful firms will be operating in the future	There is a high degree of uncertainty, and probably scepticism, about the future role of chains in this industry	What is your view of chain development, along the lines undertaken by WoolConnect, as a business strategy for the wool industry?	
(b) Chain value Compatibility Capabilities Re-alignment Information flow	It is clear in this industry that chains, and not individual firms, deliver value to consumers. Firms are changing roles and sharing information.	Old habits die hard. Traditional trading relationships are the norm and sharing information is an alien concept	Is there an attraction or value for you in the WoolConnect business model over traditional industry practice (such as auctions)?	
(c) Chain leadership and management Chain captain	There is a strong chain captain who provides leadership. The chain	Chain leadership and management are seriously lacking. No single firm	How do you see the role of leadership, coordination,	

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Leadership Chain coordinator Chain manager	coordination role is well managed by individual chain managers	with the appropriate power base is really striving for this chain to work	management in the chain context, given experience with WoolConnect	
(d) Supply management Available quantity Production risk Quality management Group cohesiveness	Supply management is a strong point of the chain - a geographic spread of producers using a common QA system with sufficient volumes to meet the future chain needs	There are real concerns over the supply – either quantity or quality on a consistent basis	What has been your experience of managing wool supply to meet orders from WoolConnect’s customers? Could this be improved? How?	

Parameter	Example of High Chain Awareness (score 7-10)	Example of Low Chain Awareness (score 1-3)	Specific Questions to Participants	Evaluation And Score
4. Relationships				
(a) Foundation History Profit drivers Culture Social bonds	The firms have a good history of working together. They understand each other’s business and culture and developed personal friendships	The firms in the chain are just starting to work together. They do not understand each other’s business or culture	In the WoolConnect chain, how do you see the current relationships between chain partners, both horizontally and vertically?	
(b) Trust Reward sharing Consideration Predictability Opportunism	Together, these items indicate that there is a high degree of trust between firms in this partnership	Concern that the rewards will not be shared fairly – one party is likely to keep all the gains, with little consideration for the other players	Do you see the management decisions in WoolConnect that influence risk and reward are open and transparent to others and equitable?	
(c) Strategic Vision Articulated vision Communicated	There is a powerful vision about what this chain is all about – this has been	There is little vision on what this chain is all about – at the first sign of	Do you think WoolConnect members share a common goal?	

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vision Buy-in Revert-to-type	communicated and bought into by the whole chain	pressure firms will probably revert to type and the old ways of doing things	What is it? Are WoolConnect objectives well communicated?	
(d) Potential Asset Strategic information Investment Inter-dependence	It is clear that the relationship(s) could be a strategic asset – with cash flow implications. Both sides have invested in the relationship and it can now be leveraged for more benefits	It is unlikely that any of the relationships in this chain will ever be viewed as intangible assets with direct cash flow benefits	Do the relationships between chain partners in WoolConnect have value? How?	
(e) Horizontal relationships Leadership and management Time together Group uniformity Systems and processes	Horizontal relationships are strong. The group is well led with dedicated management supported by QA systems and processes	The horizontal relationships (at supplier level) are extremely fragile. The producers in the group do not seem to understand what this is all about	Are there strong relationships between WoolConnect producers? How is this achieved? Could they be improved?	

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Parameter	Example of High Chain Awareness (score 7-10)	Example of Low Chain Awareness (score 1-3)	Specific Questions to Participants	Evaluation And Score
Investment Risks and Rewards: 5. Investment Risk				
(a) Capability development Competence Capability investment Capability transfer	There is little risk that firms will not invest in developing the relevant capabilities	There is a high likelihood that firms will not develop capabilities and the chain performance will suffer accordingly	How much of your time and effort does WoolConnect require? Is this worth it? Would you commit more time, or funds, or training?	
(b) Chain Risk Risk management Risk transfer	Chain participants have addressed the issue of risk – how risks will be transferred and managed	The whole area of risk has not been adequately addressed. One firm is likely to get burnt if the chain goes ahead	Are you concerned about potential losses from WoolConnect? How do you avoid this? What happens if something goes wrong?	
(c) Relationship Risk Other customer relationships Other supplier relationships A position of dependence Decline in innovation	No participants will be exposed to significant relationship risk. The chain will not impact on the relationships with other customers and suppliers, nor place the firm in a position of dependence	There is significant relationship risk. Either with other customers or suppliers – or by putting the firm in an unhealthy position of dependence on other firms in the chain	Has your involvement with WoolConnect created problems with other customers or in the way you do business?	
(d) Production Risk Climate risk Quantity risk Group risk System risk	Production risk is well managed. There is a geographic spread of growers with sufficient quantity to cover seasonal variation	There are significant production risks – either relating direct to production or to the group and the underpinning systems	How has WoolConnect managed production risk (ie processing offshore and drought)?	
Parameter	Example of High Chain	Example of Low Chain	Specific Questions to	Evaluation

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	Awareness (score 7-10)	Awareness (score 1-3)	Participants	And Score
6. Investment Rewards				
(a) Cash Flow Cost savings Revenue from existing customers Revenue from new customers Margin management Working capital management Fixed asset management	Firms have a clear view of how the chain strategy will benefit them – and benefits will flow quickly and directly into cash flows	Basically it all seems to be about fuzzy long term benefits – with no direct benefits to cash flows in the short term	How has the WoolConnect initiative benefited your business generally and particularly in terms of improved returns?	
(b) Customer Service levels Deeper relationships Access to information	The chain will lead to stronger relationships with key customers resulting in access to strategic information that will assist the firm	It is not clear how the chain strategy will lead to stronger customer relationships	What has the WoolConnect development of close chain relationships with customers meant for you and your business?	
(c) Learning and innovation New product development Processes and systems Human resources and culture Benefits over time	There is a very good feeling about how the benefits are likely to grow over time – through innovation and learning	Most of the thinking seems to be related to short term cost savings – this is more of a supply chain than a value chain	Does the WoolConnect experience have long term benefits for your business? How?	

(Adapted from “Value Chains: A Project Management and Mentoring Guide” Agri Chain Solutions, Canberra, 2002.)

Bibliography

- Agri Chain Solutions Ltd (ACS) 2002, 'Value chains: a project management & mentoring guide', *Talking About Chains*, Agri Chain Solutions Ltd, Canberra.
- Anderson, JC, Narus, JA & van Rossum, W 2006, 'Customer value propositions in business markets', *Harvard Business Review*, March.
- Australian Bureau of Agricultural and Resource Economics (ABARE) 2005, *Australian commodities*, March. ABARE
- Australian Bureau of Agricultural and Resource Economics (ABARE) 2006, *Australian commodities*, March, ABARE.
- Australian Bureau of Agricultural and Resource Economics (ABARE) 2007, *Australian commodities*, March. ABARE.
- Australian Competition and Consumer Commission (ACCC) 2007, *Examination of the prices paid to farmers for livestock and the prices paid by Australian consumers for red meat*, ACCC Publishing Unit, Canberra.
- Australian Wool Education Trust (AWET) 2006, *Education resources*, Australian Wool Education Trust. www.woolwise.com/AWET_resources
- Australian Wool Innovation (AWI) 2006, 'Financial performance of wool producing farms to 2004-05', *ABARE Outlook Conference*. ABARE, Canberra.
- Australian Wool Innovation Ltd (AWI), *Supply chain and price risk management: Australian Wool Innovation Ltd response to recommendations from two commissioned reports*, Australian Wool Innovation Ltd., www.wool.com.au
- Australian Wool Innovation Ltd (AWI) 2007, *AWI Production Forecasting Committee statistical information*, Australian Wool Innovation Ltd.
- Ballou, RH, Gilbert, SM & Mukherjee, A 2000, 'New managerial challenges from supply chain opportunities', *Industrial Marketing Management*, vol. 29, pp. 7-18.

Bibliography

- Barsh, J 2008, 'Innovative management: a conversation with Gary Hamel and Lowell Bryan', *McKinsey Quarterly*, no 1.
- Bavin, B 2007, 'Wool Watch', *The Land*, 27 September, p. 66.
- Beamon, BM 1998, 'Supply chain design and analysis: models and methods', *International Journal of Production Economics*, vol. 55, pp. 281-94.
- Berghman, L, Matthyssens, P & Vandenbempt, K 2006, 'Building competences for new customer value creation: an exploratory study', *Industrial Marketing Management*, vol. 35, pp. 961-973.
- Blank, SS 2001, 'Producers get squeezed up the farming food chain: a theory of crop portfolio composition and land use', *Review of Agricultural Economics*, vol. 23, pp. 402-422.
- Blois, K & Ramirez, R 2006, 'Capabilities as marketable assets: a proposal for a functional categorization', *Industrial Marketing Management*, vol. 35, pp. 1027-1031.
- Bryan, LL 2004, 'Making a market in knowledge', *The McKinsey Quarterly*, no. 3, pp. 101-111.
- Bryan, LL & Joyce, C 2005, 'The 21st century organisation', *The McKinsey Quarterly*, no. 3, pp. 25-33.
- Butlin, N 1964, *Investment in Australian economic development 1861-1900*, Cambridge University Press, London.
- Champion, SC & Fearne, AP 2000, 'Supply chain management. What it is...what it isn't...and what it might mean for the wool industry', International Wool Textile Organisation (IWTO) Technical Meeting.
- Champion, SC & Fearne, AP 2001, 'Alternative marketing systems for the apparel wool textile supply chain: filling the communication platform', *International Food and Agribusiness Management Review*, vol. 4, pp. 237-256.
- Christopher, M 2000, 'The agile supply chain: competing in volatile markets', *Industrial Marketing Management*, vol. 29, pp. 37-44.

Bibliography

- Collins, A & Burt, S 1999, 'Dependency in manufacturer-retailer relationships: the potential implications of retail internationalisation for indigenous food manufacturers', *Journal of Marketing Management*, vol. 15, pp. 673-693.
- Collins, R, Dunne, T & O'Keefe, M 2002, 'The "locus of value": a hallmark of chains that learn', *Supply Chain Management*, vol. 7, no. 5, pp. 318-321.
- Coughlan, A T, Anderson, E, Stern, LW & El-Ansary, AI 2006, *Marketing channels*, 7th edn, Pearson Prentice Hall, Upper Saddle River.
- Cuming, M 2007, 'Wool's \$10 Christmas', *The Land*, 13 December, p. 5.
- Department of Primary Industries and Energy (DPIE) 1997, *Competitive performance*, Morescope Publishing.
- Duffy, R & Fearn, A 2004, 'Partnerships and alliances in UK supermarket supply networks', in Bourlakis, MA & Weightman, PWH (eds) *Food Supply Chain Management*, Blackwell Publishing, Oxford, pp.136-152.
- Duysters, G, Heimeriks, KH & Jurriens, JA 2004, 'An integrated perspective on alliance management', *Journal on Chain and Network Science*, vol. 4, pp. 83-94.
- Easterby-Smith, M, Crossan, M & Nicolini, D 2000, 'Organizational learning: debates past, present and future', *Journal of Management Studies*, vol. 37, no. 6, pp. 783-796.
- Eisenhardt, KM 1989, 'Building theories from case study research', *Academy of Management Review*, vol. 14, no. 4, pp. 532-550.
- Finlay, B 2005, 'Strategies for resource management (sheep and wool industries)', *ABARE National Outlook Conference*. Canberra.
- Flugge, T 2005, 'The future of wool: dream or reality?', *ABARE Outlook Conference*, ABARE, Canberra.
- Francis, P 2007, 'Editor's View', *Australian Farm Journal*, December, p. 3.

Bibliography

- Fulton, M & Giannakis, K 2004, 'Inserting GM products into the food chain: the market and welfare effects of different labeling and regulatory regimes', *American Journal of Agricultural Economics*, vol. 86, pp. 42-60.
- Gambardella, A 1992, 'Competitive advantages from in-house scientific research', *Research Policy*, vol. 21, pp. 391-407.
- Gebhardt, Gary F, Carpenter, Gregory S & Sherry Jr, John F, 'Creating a Market Orientation: A Longitudinal, Multifirm, Grounded Analysis of Cultural Transformation', *Journal of Marketing*, Vol 70 (October 2006), pp. 37-55.
- Goldsmith, P & Bender, K 2004, 'Ten conversations about identity preservation', *Journal on Chain and Network Science*, vol. 4, pp. 111-123.
- Gow, HR, Oliver, LD & Gow, NG 2002, 'Co-operating to compete in high velocity global markets: the strategic role of flexible supply chain architectures', *Chain and Network Science*, pp. 19-32.
- Grönroos, C 2006, 'On defining marketing: finding a new roadmap for marketing', *Marketing Theory*, vol. 6, no. 4, pp. 395-417.
- Grunert, KGJ, Lisbeth F, Jespersen, KR, Sonne, AM, Hansen, K, Trondsen, T and Young, JA 2005, 'A conceptual framework based on four case studies from the food industry', *European Journal of Marketing*, vol. 39, pp. 428-455.
- Guba, EG 1990, *The paradigm dialog*, Sage Publications, Newbury Park.
- Gummesson, E 1991, 'Marketing-orientation revisited: the crucial role of the part-time marketer', *European Journal of Marketing*, vol. 25, pp. 60-75.
- Gummesson, E 2000, *Qualitative methods in management research*, 2nd edn, Sage Publications, Thousand Oaks.
- Gummesson, E 2002, *Total relationship marketing*, 2nd edn, Elsevier, Oxford.
- Gunasekera, D, Yeon, K, Tulloh, C, Ford, M 2007, *Climate change: impacts on Australian agriculture*, ABARE.

Bibliography

Halinen, A & Törnroos, JA 1998, 'The role of embeddedness in the evolution of business networks', *Scandinavian Journal of Management*, vol. 14, no. 3, pp. 187-205.

Hamel, GP, Prahalad, CK 1994, *Competing for the Future*, Harvard Business School Press, Boston.

Hauschild, S, Licht, T & Stein, W 2001, 'Creating a knowledge culture', *The McKinsey Quarterly*, no. 1.

Heilbron, SG & Larkin, JT 2006, *Enhancing the customer focus of Australian agriculture*, The Australian Farm Institute, Sydney.

Hendrikse, G & Bijman, J 2002, 'Ownership structure in agrifood chains: the marketing cooperative', *American Journal of Agricultural Economics*, vol. 84, pp. 104-119.

Hines, P & Samuel D, (draft) 'An explanatory model of integrated supply chain management.'

Huyett, WI & Viguevie, SP 2005, 'Extreme competition', *The McKinsey Quarterly*, no. 1.

Ibarra, H & Hunter, M 2007 'How leaders create and use networks', *Harvard Business Review*, January, pp. 41-47.

Jarratt, D 2004, 'Conceptualizing a relationship management capability', *Marketing Theory*, vol. 4, no. 4, pp. 287-309.

Juttner, U, Christopher, M & Baker, S 2007, 'Demand chain management - integrating marketing and supply chain management', *Journal of Industrial Marketing Management*, vol. 36, pp. 377-392.

Kohli, AKJ & Jaworski, BJ 1990, 'Market orientation: the construct, research propositions and managerial implications', *Journal of Marketing*, vol. 54, pp. 1-18.

Kotler, P, Chandler, P, Gibbs, R & McColl, R 1989, *Marketing in Australia*, 2nd edn, Prentice Hall, Sydney.

Bibliography

- Kuznesof, S & Brennan, M 2004, 'Perceived risk and product safety in the food supply chain', in Bourlakis, MAW (ed.), *Food Supply Chain Management*, Blackwell Publishing, Oxford, pp. 32-48.
- Lambe, CJ, Spekman, RE & Hunt SD 2002, 'Alliance competence, resources and alliance success: conceptualization, measurement and initial test', *Journal of the Academy of Marketing Science*, vol. 30, no. 2, pp. 141-158.
- Lambert, DM & Cooper, MC 2000, 'Issues in Supply Chain Management', *Industrial Marketing Management*, vol. 29, pp. 56-83.
- Lancioni, RA 2000, 'New developments in supply chain management for the millennium', *Industrial Marketing Management*, vol. 29, pp. 1-6.
- Lazzarini, SG, Chaddad, FR & Cook, ML 2001, 'Integrated supply chain and network analysis: the study of netchains', *Journal on Chain and Network Science*, vol. 1, pp. 7-22.
- Lee, HL 2001, 'Ultimate enterprise value creation using demand-based management', *Stanford Global Supply Chain Management Forum*, September, pp. 1-12.
- Lempriere, Michael, Conference Paper (Untitled), ABARE Outlook Conference 2006, ABARE, Canberra
- Levitt, T 1983, 'After the sale is over', *Harvard Business Review*, Sep-Oct, pp. 87-93.
- Lewis, JN 1967, 'Agricultural price policies', in Williams, DB (ed.) *Agriculture in the Australian economy*, Sydney University Press, Sydney.
- Liker, JK 2004, *The Toyota Way*, McGraw Hill, New York.
- Lindgreen, A 2001, 'In search of relationship quality, customer retention and shareholder value: findings from an exploratory multiple case study', *Journal on Chain and Network Science*, vol. 1, pp. 49-63.
- Lindgreen, A, Palmer, R, Vanhamme, J & Wouters, J 2006, 'A relationship-management assessment tool: questioning, identifying and prioritising critical aspects of customer relationships', *Industrial Marketing Management*, vol. 35, pp. 57-71.

Bibliography

- Malcolm, B, Sale, P & Egan, A 1996, *Agriculture in Australia: an introduction*, Oxford University Press, Oxford.
- Massy, C 2007, *The Australian Merino*, 2nd edn, Random House, Sydney.
- May, T 1993, *Social research: issues, methods and process*, Open University Press, Buckingham.
- Mentzer, JT, Min, S & Zacharia, ZG 2000, 'The nature of interfirm partnering in supply chain management', *Journal of Retailing*, vol. 76, pp. 549-568.
- Miles, B & Huberman, AM 1994, *Qualitative data analysis: an expanded sourcebook*, 2nd edn, Sage Publications, Thousand Oaks.
- Mintzberg, H 2005, 'Development of theory about the development of theory' in Hitt, S (ed.), *Great Minds in Management*, Oxford University Press, (to be published).
- Nicholas, K 2006, 'Woolgrowers fighting for their future', *Australian Financial Review*, 14 September, p. 1.
- Nonaka, I 1991, 'The knowledge-creating company', *Harvard Business Review*, pp. 96-104.
- O'Keefe, M & Wilson, D 2000, 'Strategic management of value creating networks', in Twite, G & O'Keefe, M (eds.), *New directions in corporate strategy*, Allen and Unwin, Sydney, pp. 125-145.
- Olson, EM, Slater, SF, Tomas, G & Hult, M 2005, 'The performance implications of fit among business strategy, marketing organisation structure and strategic behaviour', *Journal of Marketing*, vol. 69, pp. 49-65.
- Omta, SWF 2002, 'Innovation in chains', *Journal on Chain and Network Science*, pp. 73-80.
- Omta, SWF, Jacques, WF & Beers, G 2001, 'Chain and network science: a research framework', *Journal on Chain and Network Science*, vol. 1, pp. 1-6.
- Omta, SWF, Trienekens, J & Beers, G 2002, 'A research and management agenda for chain and network science', *Journal on Chain and Network Science*, pp. 1-5.

Bibliography

Parish, RM 1967, 'Marketing agricultural products', in Williams, DB (ed.), *Agriculture in the Australian economy*, Sydney University Press, Sydney.

Patton, MQ 1980, *Qualitative Evaluation Methods*, Sage Publications Inc, Beverly Hills.

Peart, Graham, Russell, Alex and Foreman, Ian, "Wool in the Cross Hairs", Conference Paper, ABARE Outlook Conference 2006, ABARE, Canberra

Peel, LJ 1986, History of the Australian pastoral industries', in Alexander, G & Williams, OB (eds), *The pastoral industries of Australia*, Sydney University Press, Sydney, pp. 41-60.

Ploenter, O & Ehret, M 2006, 'From relationships to partnerships – new forms of cooperation between buyer and seller', *Industrial Marketing Management*, vol. 35, pp. 4-9.

Polanyi, M 1966, *The tacit dimension*, Doubleday, New York.

Porter, ME 1985, *Competitive advantage*, Free Press, New York.

Porter, ME 1990, *The competitive advantage of nations*, Free Press, New York.

Productivity Commission 2005, *Trends in Australian agriculture*, Australian Government Productivity Commission.

Ravald, A & Gronvoos, C 1996, 'The value concept and relationship marketing', *European Journal of Marketing*, vol. 30, pp. 19-30.

Risk Management Solutions Group (RMSG), *Wool Marketing and Risk Management Scoping Study*, Australian Wool Innovation Ltd,
www.wool.com.au/publications/trade_development/final_report_scoping_study.pdf.

Sarantakos, S 2005, *Social Research*, 3rd edn, Palgrave MacMillan, Melbourne.

Saxena, P 2006, 'Northeast states in India sound bird flu alert', *Indo Asian News Service*, 26 February. www.eians.com

Bibliography

- Shaw, AGL 1967, 'The history and development of Australian agriculture' in Williams, DB (ed.), *Agriculture in the Australian economy*, Sydney University Press, Sydney, pp. 1-28.
- Simchi-Levi, D, Kaminski, P & Simchi-Levi, E 2000, *Designing and managing the supply chain: concepts, strategies and case studies*, Irwin McGraw Hill, New York.
- Slater, Stanley F & Narver, John C, "Market Orientation and the Learning Organization", *Journal of Marketing*, Vol.59 (July 1995), 63-74.
- Spekman, RE & Carraway, R 2006, 'Making the transition to collaborative buyer-seller relationships: an emerging framework', *Industrial Marketing Management*, vol. 35, pp. 10-19.
- Spekman, RE, Forbes, TM, Isabella, LA & MacAvoy, TC 1998, 'Alliance management: a view from the past and a look to the future', *Journal of Management Studies*, vol. 35, no. 6, pp. 747-765.
- Spekman, RE, Isabella, LA, MacAvoy, TC & Forbes, T 1996, 'Creating strategic alliances which endure', *Long Range Planning*, vol. 29, no. 3, pp. 346-357.
- Sporleder, TL & Moss, LE 2002, 'Knowledge management in the global food system: network embeddedness and social capital', *American Journal of Agricultural Economics*, vol. 84, no. 5, pp. 1345-1352.
- Storbacka, K, Strandvik, T, Grönroos, C 1994, 'Managing customer relationships for profit: the dynamics of relationship quality', *International Journal of Service Industry Management*, vol. 5, no. 5, pp. 21-38.
- Strauss, A & Corbin, J 1990, *Basics of qualitative research*, Sage Publications Inc California.
- Sturgess, NH & Malcolm, LR 1986, 'Management economics in the pastoral industries', in Alexander, G & Williams, OB (eds), *The pastoral industries of Australia*, Sydney University Press, Sydney, pp. 347-370.
- The Merino Company (TMC), *New Zealand Merino supply chain business model for Australia*, Australian Wool Innovation Limited,
www.woll.com.au/publications/trade_development/final_report_NZ_Merino.pdf.

Bibliography

- Thistleton, J 2007, 'Desperate Times', *Canberra Times*, 3 February.
- Thompson, JD 1967, *Organisations in action: social science bases of administrative theory*, McGraw Hill, New York.
- Van der Ploeg, DJ & Frows, J 1999, 'On power and weakness, capacity and impotence: rigidity and flexibility in food chains', *International Planning Studies*, vol. 4, pp. 333-347.
- Walter, J, Lechner, C & Kellermanns, FW 2007 'Knowledge transfer between and within alliance partners: private versus collective benefits of social capital', *Journal of Business Research*, vol. 60, pp. 698-710.
- Walters, D 2006, 'Effectiveness and efficiency: the role of demand chain management', *International Journal of Logistics Management*, vol. 17, no. 1, pp. 75-94.
- Wang, WYC, Heng, MSH & Chau, PYK (eds) 2007, *Implementing supply chain management in the new era*, Idea Group Inc, Hershey, pp. 1-21.
- Watson, AS & Lloyd, AG 1986, 'Economic and marketing policies of the pastoral industries', in Alexander, G & Williams, OB (eds), *The pastoral industries of Australia*, 2nd edn, Sydney University Press, Sydney, pp. 371-389.
- White, HMF 2000, 'Buyer-supplier relationships in the UK fresh produce industry', *British Food Journal*, vol. 102, pp. 6-17.
- Whiteley, KJ & Welsman, SJ 1990, 'Wool', in Reid, RL (ed.), *The manual of Australian agriculture*, 5th edn, Butterworths, Sydney, pp. 596-610.
- Wilcox, C 2007, 'Australian merino wool: playing to our strengths', *ABARE Outlook Conference*, ABARE, Canberra.
- Wilkinson, IF 1976, 'An exploration of methodologies for detecting subgroups, subsystems and cliques of firms in distribution channels', *Academy of Marketing Science Journal*, vol. 4, p. 359.
- Wilson, J & Shaw, SA 2005 (Draft), 'Partner selection processes in international strategic alliances by small and medium sized businesses: UK fresh produce growers and their overseas partners'.

Bibliography

Woodruff, R & Gardial, P 1996, *Know your customer*, Blackwell Business, Cambridge.

Wuyts, S, Stremersch, S, van den Bulte, C & Franses, PH 2004 'Vertical marketing systems for complex products: a triadic perspective', *Journal of Marketing Research*, vol. XL1, pp. 479-487.

Yin, RK 2003, *Case study research: design and methods*, 3rd ed, Sage Publications, Thousand Oaks.