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New Zealand Nuffield Farming Scholarship Trust

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Supply Chain Relationships and Value Chain Design

The New Industry Transformation. How to Redesign New Zealand's Red Meat and Wool Supply Chains.

by James Parsons, 2008 Nuffield Farming Scholar

Forward

27 January 2009

There is no doubt that the future for New Zealand very much depends on the success of agriculture. In spite of suggestions in recent years that other forms of industry are the future for New Zealand, agriculture continues to grow its contribution to GDP year on year. Sheep and Beef returns alone, contribute $6.0 billion of foreign exchange earnings with over 90% of production exported all around the world.

New Zealand farmers continue to lead the world in efficiency in our predominantly grass fed systems. However as the author of this report has identified, returns to farmers have not consistently reflected this extraordinary feat of efficiency that farmers from other countries seek to emulate.

The New Zealand sheep and beef industry has a proud history of leadership and innovation across the globe. Nuffield Scholars have been among the many groups of individuals that believe passionately in the future of agriculture and travel extensively to share information with others so as to make farming even better in the future. The time and commitment involved is massive, however New Zealand agriculture is far better off for the thinking and analysis these scholars provide at the end of their studies abroad.

James Parsons is one of the most recent Nuffield Scholars to leave New Zealand to study his topic of interest, *"Supply Chain Relationships and Value Chain Design".* His departure from New Zealand coincided with heated industry debate about how to re-organise the industry to provide better returns for farmers and others to ensure a more viable industry in the future.

James has looked extensively at value chains in a number of countries and in other industries for points of difference that could be used here in the New Zealand sheep and beef sector. He talks extensively about the need for better information sharing, encouraging differentiation and collectively leveraging our points of difference. He identifies good examples of New Zealand companies doing parts of this well and getting better returns as a result. However many other concepts James talks about in this report could be further applied in our industry for even greater returns.

Importantly, James has included in his report a key message that resonates particularly well with me. As farmers we are all part of the solution, and we should not spend time looking in the rear view mirror and lamenting the past. It is very easy to identify the problem and expect someone else to make it go away, and James is asking more than that.

This report is the view of a person passionate about agriculture, who has travelled extensively for nearly six months and investigated many different types of systems to come to some conclusions.

James has proudly and conscientiously continued the Nuffield tradition of adding to the leadership and innovation that New Zealand is renowned for. I am sure you will gain a lot from reading this report and I urge you to take up the "Call to Action" that James is asking from you in return.

Mike Petersen

Chairman

Meat and Wool New Zealand

Acknowledgements

As I write these words I reflect on how amazingly fortunate I have been. To join the ranks of incredibly entrepreneurial but grounded Nuffield Scholars is an outstanding honour. The title in itself attracts enormous respect internationally, opening doors that I never could have opened on my own.

Many thanks to the New Zealand Nuffield Farming Scholarship Trust for making all this possible and to the many sponsors I've listed below. Your investment changes lives, and mine was no exception.

To Mike Petersen, a very busy man who still set aside time to write such a powerful forward to this report, my sincere thanks.

So many individuals made my Nuffield Scholarship possible: The network of Nuffield Scholars around the globe, thank you for so warmly welcoming me into the Nuffield family. To the incredibly hospitable people who opened their homes to a nomadic scholar and the hundreds of very busy people who set aside time to field my many questions – thank you so much.

Thanks also to Nuffield Australia for treating me as one of their own and also organising the Contemporary Scholars Conference in Melbourne and 6 week Global Focus Tour.

Mention must also be made of the incredible support of wider family, friends, neighbours and staff. Your contribution while I was abroad will not be forgotten.

I have purposefully left the most important thank you to last. Those who made the greatest sacrifice include my amazing wife Janine and two preschool sons Corin and Matthew. Thank you for your self-sacrifice, love and unwavering support. A Nuffield Scholarship doesn't end when a Scholar returns home. For me it has resulted in numerous speaking engagements around New Zealand and also to Canada. On top of that writing this report has been no small undertaking. Janine you are the one who truly deserves all the accolades. You have always been my greatest supporter, believing in me when even my own self belief has been challenged.

For this reason I dedicate this report to my amazing wife Janine.

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Introduction

When you examine the amazing efficiency gains New Zealand producers have made since the deregulation in the 1980's, it is truly impressive. So much so that New Zealand's agricultural industry is frequently held up as an example internationally. Yet despite all these amazing gains, our country's meat and wool producers are not making more money. To add insult to injury they even hit a 50 year low in farm profitability, with 2007-08's average farm profit of $19,400. This has left many in the industry asking the question: 'how do we get off this production treadmill?' What do the most efficient group of producers on the planet have to do different, to achieve healthy and sustainable profits?

With these and many other questions screaming inside me for an answer, and with the amazing support of my wife I decided to step off the treadmill in pursuit of the insights I knew were there somewhere. The path I chose was to apply for a Nuffield Farming Scholarship. Quickly following the exhilaration of being awarded a scholarship, came the awareness and responsibility of needing to deliver some solid answers for my fellow farmers.

Of recent years I have developed a fascination with the power of systems. The efficiencies they create and how small tweaks to their design can influence human behaviour hugely. You will see this reflected in the following report. Also I have taken a very principled based approach to my research. Rather than just learn what people and organisations do, I instead went a step further to understand why they do it. Once you lock down the principles that apply in a situation, you can cut through the fog of detail to quickly understand whether a course of action will successfully deliver or not. With these two angles in mind I set off seeking to understand the supply chain, how it could be streamlined and made more efficient, with a goal of lifting New Zealand's sheep and beef farmers profits. My travels took me through Australia, USA, Mexico, Canada, Brazil, the UK, Ireland, Netherlands and finally China.

I'm incredibly relieved that I chose to understand the whole supply chain from start to finish, rather than looking at one part in isolation. Far too many people have gone off to the market place for New Zealand's products, and returned saying: ***"the answer to our woes is we need to market our products better."*** While there is a lot of truth to this statement, marketing on its own is not the complete answer, or our number one priority. These individuals have made the mistake of looking at the interface with the consumer in isolation, yet this is only one part of the equation. It is important to understand the context of why New Zealand's products are poorly marketed. In pursuit of this and many other answers I purposefully looked at supply chains that had nothing to do with food, knowing that their core principles would apply, regardless of the product.

The audience I am pitching this report to is very much New Zealand's sheep and beef industry participants, particularly producers, as I am first and foremost a sheep and beef farmer also. When I have used statements, such as: 'much of New Zealand's production,' I am generally referring to sheep and beef production, not dairy or other primary industries. While many of the examples used relate to lamb, it is important point out that the same principles and in many cases opportunities apply regardless of the product.

To be awarded a Nuffield Scholarship is truly life changing. You embark on a journey around the globe with really no idea what you'll discover, yet by the end your confidence, ability to network and more importantly insights and depths of understanding are at a level that you could never have anticipated. My journey was no exception.

The following pages have been immensely enjoyable crafting. They are the fruit of five and a half months of very focused thinking, long days and late nights and endless questions of very influential people all over the globe. Upon returning to New Zealand, the next five months involved the percolation of many thoughts. As ideas and concepts matured they were put in to, an all too important context. The pages you are about to read are the formal documentation of what has been an amazing intellectual journey.

Executive Summary

In an incredible intellectual journey of a lifetime, I travelled 5 continents over nearly half a year, seeking to understand supply chain dynamics and how to design the ultimate value chain. My subsequent and informed belief is we are in one of the most exciting times in global agriculture, quite simply because it is changing at an ever increasing speed. New Zealand pastoral farming is in an incredibly strong position, and has a tremendous window of opportunity for its meat and wool producers. The divided price taking farmers of today can be part of tomorrow's global super co-operatives; setting the price for our pasture produced products. The opportunity to create and embrace a new industry transformation is incredibly exciting. However it is also our only viable option.

The greatest barrier to a New Zealand meat and wool industry transformation is the fierce culture of independence, poor communication and mistrust endemic in the industry. To get a bunch of farmers to agree upon something is like herding cats. This behaviour is not because industry members are morally deficient, but rather symptomatic of the complex and dysfunctional supply chain structures they are in. In essence the system is flawed and the system determines the culture. Human nature is completely geared to finding the easiest option; mankind will always work the system to get the maximum benefit for self. Rather than making a value judgement and focusing on the counter productive behaviour, the focus instead must be on the system. The system must always be the point of intervention. By redesigning the system in such a way that **'the right incentives are put in the right places,'** then naturally the right behaviour and culture result. Leaders redesign systems, managers just work within their parameters. Subsequently visionary and innovative leadership is required to engineer a necessary culture shift and industry transformation.

A closer look at New Zealand's commodity supply chains shows they are incredibly long, complex, and highly dysfunctional. They are built on an archaic system of buy-low sell- high up and down the chain. Each chain partner's profits are highly dependent on their buy-price and sell-price. This in turn is a disincentive to communicate, which in turn breeds mistrust and second guessing. Weak and dysfunctional relationships are the result. Auctions exacerbate this problem even more through keeping the buyer and seller apart. The seller has no knowledge of who the buyer will be and therefore can't tailor their production to the specific needs of this next member in the chain.

Auctions also become a haven for opportunistic trading. While auctions provide a transparent means of gauging supply and demand – therefore price; commoditisation of the product is the result. Incentives for producers differentiating their product and adding value don't exist, because communication with the next chain partner is not facilitated. A long term relationship between chain partners is like a marriage, built on communication and trust; expanding this analogy an auction is like a public forum for one-night-stands between buyers and sellers. The relationship is very temporal with no guarantee of repeat business. The 'Sunday night auction' where farmers ring around meat companies, is a less public version of the same thing. In these complex commodity supply chains potential value is destroyed rather than created. The philosophy of the traditional supply chain is: **'Let's compete for our individual slice of the pie'.**

Components of the chain (individual chain partners) tend to be very efficient at a component level. New Zealand producers and also processors are world leaders in terms of efficiency, regarding their own component in the chain. Much of this can be attributed to our industry's last transformation, sparked by deregulation in the 80's. Importers, secondary processors and retailers also are very efficient as individual components. But at a chain level, the chains efficiency is very poor. The parts of the sum might look good but the sum of the parts is dismal. In the same way that tactics should follow strategy, component efficiency should come secondary to chain efficiency. A new industry transformation is long overdue. Without doubt, when it happens, it will result in a radical overhaul of our supply chains.

By contrast with the traditional supply chain, the value chain concept is a completely different system. It creates a collaborative culture through incentivising communication, trust and interdependence rather than independence. The value chain typically is short with few chain partners. It is focused on a certain market or customer, and the sharing of ideas between chain partners facilitates co-innovation and product differentiation. In complete contrast with the traditional supply chain, the value chain philosophy is: '**How can we collectively grow the pie rather than compete for our individual slice'.** It is focused on chain efficiency first and component efficiency second. While a superior concept to the traditional supply chain model it is not easy to construct. The ideal value chain shares power and profits fairly amongst the chain partners. This requires chain partners to possess the same values and philosophy; achieving this is easier said than done. Particularly if one of the chain partners is a retailer used to being the price-maker in the chain; taking the biggest margin, because they can. Subsequently many of the value chains held up as being fantastic models to follow are, while a lot more efficient, still retail-led. Producers in these chains might receive a premium now to hook them in, but profits and power aren't shared equitably. As these retail-led value chains become common place, any premium previously on offer will have disappeared, as producers will have very few alternatives.

New Zealand's meat and wool industry must pursue the value chain approach with all speed. But producers must enter them with enough collective strength to ensure they aren't squeezed on price as they are today. Instead of being retail-led value chains they must be producer-led chains. Chains that have a firm consumer focus with producer owned niche brands.

All over the globe there is a battle going on, regarding who controls the power over their respective supply chains. The increase in consolidation and growth of multinational companies is happening at an alarming rate. Consolidation is synonymous with power; if one chain partner consolidates unless it is matched by the others there is an automatic shift in power. Retailers have been leading the charge on consolidation, yet it has not been matched by New Zealand meat and wool producers and the co-operatives they own. As more power has shifted to the retailers, it is no surprise they have squeezed producers on price. In just four years, from 2003, New Zealand farmers' share of the UK retail price of lamb shrunk 20%. Contributing to the 2007-08's lowest ever sheep and beef farm profit in 50 years, $19,400; worse than the deregulation years of the 80's.

Capitalism dictates that whoever controls the power over the chain sets the price, keeping everybody else on subsistence margins - in order of consolidation. The huge efficiency gains New

Zealand sheep and beef farmers have made since the last industry transformation of the 80's, have not translated into greater long term profits. Instead these efficiency gains (at component level) have been passed on as cheaper products for the benefit of others further along the chain; no one more so than the retailers. When you compare British lamb with New Zealand lamb on the retail shelf, despite it retailing cut for cut at nearly the same price, the farmgate prices are vastly different. In 2007 British farmers received 45% of the retail price for lamb compared with New Zealand farmers receiving only 20%. If British sheep farmers were as efficient as New Zealand producers they would only receive a 20% margin also. But the retailers can't squeeze them anymore or their producer suppliers will go out of business. New Zealand producers have been very poor at protecting and banking the extra margin they have created. This has been due to weak, fragmented selling of meat and wool as an absolute commodity by New Zealand companies. This is not a value judgement on these companies but rather symptomatic of the flaws in the system.

It is an absolute myth that lower costs of production are New Zealand's competitive advantage. It could be... but because we are weak sellers, we pass on rather than bank the margin all our innovation and hard work has created**. Could this be another definition of madness?**

New Zealand's meat industry is at serious risk of a large emerging multinational red meat processor entering the New Zealand procurement market. Due to the current infighting and fragmented structure there is a power vacuum waiting to be filled. The question is will it be a New Zealand producer owned co-operative that will fill it or some third party? One thing is guaranteed, power vacuum's get filled eventually.

While the co-operative model has its failings no one has come up with a better model to serve producers interests through fair product prices. The mandate of private and public companies is to make profits for their shareholders, not pay high prices to producers. Co-operatives therefore set a benchmark in prices that competing public and private companies must match. **Healthy competition creates efficiencies, unhealthy competition destroys value.** Internal fighting at procurement and then again in the market place by New Zealand's meat and wool companies is unhealthy competition. The globe is a very big market place with more competition than required to keep a consolidated farmer-owned co-operative efficient. Size is not synonymous with inefficiency - Wal-Mart the world's biggest retailer is the most efficient retailer on the planet. It also has a phenomenal low cost culture.

A weakness of the traditional co-operative is its socialist system. The requirement to treat all shareholders evenly makes it difficult to **connect producers with the consequences of their choices.** Until producers get rewarded significantly for adding value and penalised severely for destroying it producers won't change their behaviour. The system encourages a focus on production and cost efficiency, essentially a commodity culture. This suits the cost efficient producers (Cost Efficiency), but it doesn't cater for the other two types of businesses. It fails to facilitate producers to innovate new products (Product Leadership); and producers wanting to cater for the every whim and fancy of the consumer (Customer Intimacy). In the market place there is room for all three, as consumers fall into these three categories as well.

The traditional co-operative needs to adapt its structure to assist the establishment of multiple value chains. Each of these value chains would include a producer group with a cost efficiency, product leadership or customer intimacy focus and philosophy. They would tailor their production to satisfy a specific consumer group, with the same philosophy and subsequent buying behaviour. Their differentiated production would be supported by their own consumer brand. Each value chain would be an independent silo, but with each connected with the same consolidated co-operative there would be enough rigour and discipline to ensure a co-ordinated rather than fragmented approach in the market place.

There has been much talk in the New Zealand industry of spreading meat production evenly across 52 weeks of the year. While there are certainly opportunities to improve supply management, this strategy is very dangerous as it is walking away from New Zealand's very unique points of difference, being:

> The most efficient pasture based producers in the world, and an incredibly low carbon footprint to our production.

The far smarter strategy is to instead leverage our points of difference and develop counter seasonal supply arrangements with northern hemisphere producers. Through a co-ordinated value chain approach, markets can be supplied 52 weeks of the year with seasonal product, possessing a low carbon footprint. The understandable desire for meat companies to spread their overheads across 52 weeks, rather than processing seasonal product is very much to do with component efficiency. It isn't complimentary to a strategic whole-chain view. A 52 week domestic procurement strategy would improve component efficiency at the expense of chain efficiency.

Most multinational food companies today pursue a strategy of global sourcing. A consolidated farmer-owned meat-company through having an external rather than internal focus would naturally begin sourcing product globally as Fonterra does. This would speed up the formation of counter seasonal value chains, where New Zealand producers work in tandem with Northern Hemisphere producers.

The New Zealand primary industry is the most innovative in the world. Yet when you examine **many** of our innovations they fall into the category of: **'irresponsible'**. The reason being they increase the costs of producing a product, but the premium attached to the innovation has a shelf life. The niche products of today are the commodities of tomorrow. Retailers and others in the supply chain frequently entice producers with a premium to differentiate their production. As producers take up the premium by implementing new standards of quality assurance or animal welfare, etc, costs associated with differentiating their product increase also. Because they are ahead of the curve, the innovators and early adopters always profit out of embracing these premiums. But as the early and late majority follow suit, the once differentiated product becomes commoditised and the premium vanishes. While the innovators have moved onto the next slice of cheese, the rest of the industry is left with the higher costs. As an industry we need to stop embracing these irresponsible innovations. Instead the focus needs to be on **responsible innovations** that firstly: differentiate products and increase price without increasing costs. And secondly: innovations which decrease costs while maintaining price. Our industry's fragmented nature means there is little rigour and discipline as to which innovations are taken up. An attitude prevails of: **'if I don't do it someone else will'.**

As we are now well into the 'information age', there are new tools available to exercise control over the supply chain that previously didn't exist. **Information systems are possibly the biggest opportunity and threat New Zealand meat and wool producers have.** Some of the most cutting edge supply chains on the globe, led by Dell computers, Toyota, Wal-Mart, etc, have information systems at their core. Instead of relying solely on the very fickle and old-fashioned human communication, in these chains communication is very automated. And because these information systems are so integral to the chains functionality they can't be circumnavigated.

When you look at New Zealand's meat and wool industries, information systems spanning the supply chain are conspicuous by their absence. Information systems spanning a chain communicate knowledge relating to supply and demand, taking away second guessing between chain partners. Information technology is a core tool when building demand-driven supply chains. By contrast New Zealand's existing supply chains are very much production-driven or production-push. Right now retailers are waking up to this incredible opportunity. In some cases they are already capturing information over the supply chain, including producer's costs of production. This strategy affords them control over the supply chain without using the costly vertically integrated model. New Zealand's incredible ability to innovate needs to be focused on this opportunity, ensuring we seize the opportunity first.

Research and development (R&D) and marketing must be at value chain level rather than industry level. The current generic shotgun approach must stop. When you have a well constructed value chain, with a product that has some natural points of difference, the next step is to accelerate that chains performance. Just as nitrogen fertiliser accelerates the performance of healthily growing grass, so does focused R&D and marketing accelerate a healthy chains performance. Many of our industries chains are not healthy due to their poor design. Just as a farmer does not apply nitrogen to grass mid winter in a 150mm rain storm, neither should we randomly allocate our R&D and marketing spend without resolving the many chain leakages.

It is important to ensure the full benefits from R&D and marketing are captured not leached away. The value chain tends to be very functional with few leakages. Producer groups in value chains are the innovative clusters that will raise the bar for the New Zealand's primary industries. Subsequently it is an ideal environment for R&D and marketing accelerators. It is important that the industry markets and champions a handful of high end consumer brands for a small percentage of its production. This way the whole industry benefits, as most consumers subconsciously trade down to lesser brands of a similar New Zealand product. Even though they can't afford the best, they aspire to experience it. Icebreaker is a great example; it has lifted the perception of all merino clothing, not just its own branded items, subsequently all merino clothing has benefited.

A common human failing is to look at the past and expect the future to be the same. This is the same as driving along in a car at 100km an hour, with 90% of your focus on the rear-view mirror. The principle here is that **'whatever you focus on enlarges'.** Focusing on the past means you will keep getting the past. This rear-view mirror effect is endemic in our red meat and wool industries, with sweeping comments like: ***"that has all been tried before and it didn't work."*** As an industry we need to have 90% of our focus on the windscreen of the future, with 10% of our focus on the rear-view of the past. This way we can proactively anticipate the twists and cross roads of the future while not repeating the mistakes of history. My challenge to members of New Zealand's meat and wool industries is this: if you hear yourself, or others say: ***"that has been tried before and didn't work."*** Challenge this destructive rear-view mirror mindset.

It is time to stop judging our future by our past. The New Zealand meat and wool industries have tremendous opportunities in the 21st century marketplace through collectively leveraging our points of difference. Let's make it happen!

1. Systems

The system determines the culture.

'The system determines the culture' was my catch cry as I headed around the globe. I'm sure those that hung around me enough got absolutely sick of hearing this but let me explain why I so passionately live and breathe systems. If you understand this and implement it in business (and in all aspects of life) you can change people's behaviour and therefore an organisation's culture. Leaders change systems. While they will rarely articulate it as I am, they understand this intuitively. What sets a value chain's performance and culture apart from a traditional supply chain is the system it operates under. This chapter is absolutely foundational for the rest of my report as I will be referring back to this principle time and time again. So let's get started. Here are the three kinds of systems that we deal with and operate within every day: Soft systems, hard systems and information systems.

Soft systems

Soft systems can best be described as processes, procedures, or a method of doing something. When the government changes the law they are changing a soft system. When a CEO implements a new incentive scheme for the staff or customers they are changing or creating a soft system. When I send my dog up the hill to muster off some sheep that is a soft system. Soft systems generally require initiative, experience and skill to master. They also are limited to humans and animals as they require intelligence and initiative to implement or perform.

Hard systems

These are man-made objects such as infrastructure, tools, etc. Throughout history mankind has devoted a huge amount of energy to replacing soft systems with new and better hard systems, typically described as an invention or innovation. In essence what a hard system does is reduce our reliance on soft systems by making things less labour intensive. Tasks become easier to perform because they require less initiative, skill or experience. It takes away the reliance on initiative and skill to confine the possible outcomes and condition behaviour. For example thousands of years ago (thank goodness) some bright spark invented a hard system called the wheel. Suddenly instead of dragging or carrying things, carts and wagons came on the scene, reducing the workload. A table and chair is a hard system that replaced sitting on the ground or squatting. A boat replaced the need to swim. A motor replaced the need to row. A car replaced the horse. A fence reduced the reliance on shepherds, confining animals to a set area and conditioning their roaming behaviour.

Every day mankind is inventing new ways of replacing soft systems with hard systems, and in many cases rendering these old art forms (the soft systems) obsolete. Most describe this simply as change or progress. In New Zealand agriculture we are extremely good at this hard systems stuff. The old No. 8 wire mentality sums up what a bunch of innovators we are with hard systems, especially around pastoral farming. I would go as far as to argue that New Zealand's true competitive advantage is not our climate but our systems approach to pastoral farming. We invest in good infrastructure (hard systems) such as fencing and animal handling facilities. Then we utilise those hard systems with the best pastoral soft systems in the world. Many countries in the world grow more grass than New Zealand does, they just don't have the infrastructure and processes (systems) to utilise it.

Information systems

Here is where we have some serious opportunities in agri-food supply chains as we don't do this well. An information system is all about transferring knowledge, i.e. information. Modern day examples of information systems include the internet, Google, an excel spreadsheet, a database, TV and radio. Computer hardware is a hard system but computer programmes or software are information systems. We input data into them and in the blink of an eye the programme processes that information and gives us a result, based on the quality of the data put in. The ever increasing speed of change in the world today can be attributed to the fact that we have some very clever information systems which the internet enables. This information super highway means that ideas or new innovations and research are picked up by people all over the globe incredibly quickly. For my Nuffield Scholarship I relied on the internet significantly, and compared with preceding Scholars of just 10 years ago my contemporary Scholars and I gathered and processed information faster simply because of this amazing information system at our disposal.

International bestselling author Thomas L. Friedman, in his book 'The World is Flat', covering globalization in the early 21st century writes:

> ***"Never before in the history of the planet have so many people, on their own, had the ability to find so much information about so many things and about so many other people."*** The growth of search engines is tremendous; for example take Google, which Friedman states is: ***"Now processing roughly one billion searches per day, up from 150 million just three years ago"***

As information systems get more sophisticated then ideas are communicated more rapidly. The adoption of new innovations and responses to new market information is faster and faster by the day. Why? Because communication is so much faster due to the amazing information systems we have. All I can say is get used to this rate of change because it will get faster and faster. Any business that doesn't embrace change will be obsolete faster than ever before.

How to change a culture

Right now you are possibly thinking: ***"Interesting rhetoric James, but how can all this systems stuff have anything to do with changing a culture?"*** Here is how. Human nature is completely geared to finding the easiest option; mankind will always work the system to get the maximum benefit for self.

Here is a soft systems example:

- While I was in the UK I visited a lot of beef and sheep farmers who farm in a subsidised industry. I saw firsthand how inefficient many of these farmers were production-wise. By a New Zealand farming definition they are lousy farmers, but the reality is they aren't at all. In fact they apply themselves incredibly well, farming to the system that they are in. Subsidies incentivise them to farm or behave in a certain way, sadly establishing a culture of dependency on government, not production and marketing. The system has determined the culture.

Compare this with New Zealand sheep and beef farmers who are much more innovative, production and market focused than our UK cousins. The fundamental difference is we aren't subsidised. The system has created a culture of 'innovate and produce or go broke'. Despite all our chest-beating about Kiwis being the best farmers in the world, in reality profit-wise, we aren't making much if any more money, so why should our UK cousins change? Where are the incentives in the system for them to change their culture?

You are probably getting my drift now, so two more quick examples to drive the point home:

- The dinner table is a great place for farming families to sit down and converse over a meal. It is a cultural thing to do this. Remember a table and chairs are a hard system. Now if this hard system was designed differently so that instead of one communal dinner table, instead you had several individual tables and chairs all facing into the various corners of the room, over time a family would develop a new culture of not talking over dinner. This would lead to a weaker family unit, simply because the new hard system doesn't incentivise easy conversation.

- I visited with a fellow scholar Rob Ward in England, who implemented a new system in his locally sourced retail food shop. His team of 14 staff were all put on a profit share scheme. A percentage of the weekly profit is distributed evenly regardless of seniority according to how many hours each individual works. This is paid as a weekly bonus and can be up to £40 for an 18 year old girl. There is a real culture amongst staff of buy-in to the business. Nothing illustrates this better than Friday evenings. To know what their weekly bonus is Rob's staff will hang around half an hour late purely to find out what the stores turnover has been for the week. This is one of many examples of how Rob has exercised leadership rather than management, changing his business's soft systems to create a culture where his staff now have a vested interest in the stores performance. How many 18 year olds in big supermarkets you shop at could tell you or would even care what their store turned over last week?

Here is a definition of leadership versus management, just to add to the other 200 or so definitions running around:

> ***Leaders redesign the system to get an exponential result, managers work the system to try and achieve the full potential the system allows.***

Rob didn't need any more financial resources to implement his bonus system; he just redistributed the budget he had allocated for wages in an innovative way. As a leader he understood how to redesign the system to achieve an exponential result, simply through better leveraging his existing resources.

The supply chain is one big system

The supply chain i.e. production, processing, transport, packaging, marketing and selling of New Zealand's meat and fibre products can simply be described as one big system. Generally speaking they are very complex with multiple leakages. As you read on you will see how the system can be simplified and those leakages plugged. The end result is what is termed a value chain.

The system must be the point of intervention to effect change

I have lost count of the times I have heard New Zealand farmers and meat companies say that we must change our behaviour. So often industry members have taken the moral high ground, pointed the finger and said: "this is really bad behaviour and it is counterproductive". While they are generally right, the problem with this approach is often focused on the symptoms of the problem rather than the cause. Too often it is loaded with a value judgement levelled at an organisation or group of individuals who are simply working the system as best they can. Remember behaviour is just a symptom of the system. The vast majority of farmers and meat companies don't go out to be counterproductive but instead operate within the system, trying to run a profitable business. The fastest way to change farmer and meat company behaviour is to change the system.

Before leaving New Zealand I had a perception that New Zealand meat companies employed marketers in their offshore offices. My naivety was quickly dispelled as I started visiting many of these folks. The UK in particular had importing offices filled with traders - not marketers. Now before we go any further I'm not making a value judgement here. They struck me as very good traders, and these guys were working the system to get the best yield from it they could. And they were very hospitable to me, helping me gain a deeper understanding of how their link in the chain operated. The problem was, the system was structured in such a way that the five biggest New Zealand Meat companies were being played off against each other by the ever so ruthless UK supermarkets. These traders were all selling good quality commodity lamb, yet the problem with commodity is the only point of difference is price. If one company has an oversupply how do they move it? With commodity, price generally becomes the lever or point of differentiation. Now you can't make a value judgement on the supermarkets for leveraging prices down either, the system allows it and farmers are no different. I'm sure most farmers wanting to buy a dozen gates or a big order of fencing material have shopped around. When they find the best deal, a quick phone call to their preferred rural supplies store is placed with a veiled request to match the cheapest price or risk losing the business.

Remember human nature means people will always work the system to get the maximum benefit for themselves. There is nothing wrong with that; it is as natural as wind moving across the ocean. Expecting farmers and meat companies to behave any differently is like sailing straight into the wind: not going anywhere then demanding the sailing boat change its behaviour. Obviously no sailor does this as it would be defying nature; instead they skilfully work with nature. The same goes for our supply chain relationships; instead of defying human nature rather work with it, harness it and incentivise it to move in the right direction.

John Absolom co-founder of the large sheep genetics company Rissington Breedline, once shared with me their philosophy when designing contracts for farmers:

> ***"The key is to put the right incentives in the right places to get the right kind of behaviour."***

When we look at many of our traditional commodity supply chains too often the incentives are in the wrong places and create the wrong kind of behaviour. People always work the system to get the maximum benefit for themselves, when a group behave collectively the same way for long enough then you get a culture. Therefore the point of intervention must always be the system. This is why we need **leaders** to move the New Zealand Agricultural Industry forward, not **managers**.

So in summary there are three kinds of systems – Hard, soft and information systems. Whenever you replace a soft system with a good hard system, you will always create efficiencies by reducing the requirement for skilled labour and initiative. Intuitively leaders understand that the point of intervention in changing behaviour and a culture is always the system.

2. Supply Chain vs. Value Chain – What is the Difference?

There is a lot of misunderstanding around what a true value chain is compared with a traditional supply chain. So bear with me as I quickly quote you some dry definitions to clear up any confusion.

'Supply chain' includes every company that comes into contact with a particular product. For example, the supply chain for most products will encompass all the companies manufacturing parts for the product, assembling it, delivering it and selling it. In contrast the **value chain** is a concept from business management that was first described and popularized by Michael Porter in his 1985 best-seller, *Competitive Advantage: Creating and Sustaining Superior Performance*.

> ***"A value chain is a chain of activities. Products pass through all activities of the chain in order and at each activity the product gains some value. The chain of activities gives the products more added value than the sum of added values of all activities."***

1985 was a fair old while ago and contemporary thinking and therefore the use of the term **'value chain'** has come a long way since Porter first introduced the concept. For now the term **'supply chain'** is the generic term, into which a **'value chain'** falls. Therefore a value chain is a type of supply chain and most, including myself, would argue that compared to the traditional supply chain it is a superior concept. Typically if a food producer is part of a value chain they generally have their production tailored to a set group of consumers demands. Information flows a lot better and instead of using a spot market they have pre-determined exactly who they are selling their product to. This is in stark contrast to how commodity producers behave in traditional supply chains.

It's just like a marriage

The study of supply chain relationships is very akin to any study of human relationships. This is because companies are run by humans. At the core of any organisation that happens to be a chain partner, there is a human making the decisions. In fact you could even describe a long term relationship between two chain partners as a type of marriage. The added factor however is there are a set of commercial aspects that can complicate the relationship. Many of the principles applicable to building and maintaining a strong marriage are equally applicable to building and maintaining strong chain relationships. Just as a strong marriage is built on honesty, integrity, trust, good transparent communication and shared power so is a strong chain. The reverse is also so. Think of a dysfunctional marriage you have observed. One of the first cracks to appear is generally poor communication, this in turn sets off a chain reaction of second guessing, mistrust and ultimately individualism i.e. separation. Sounds a bit like New Zealand's red meat and wool industries, doesn't it. Transparent communication is one of the vital glues that keep chain relationships functional and strong. It needs to be incentivised and built into the chain's design at every step.

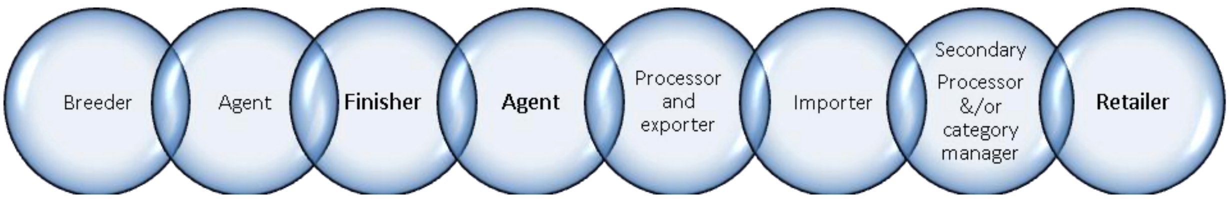
Breakthrough in my studies

In May 2008 I was to be found holed up at a friend's place in Alberta, Canada, surfing the net. Via Google I stumbled across a chap called Martin Gooch of the George Morris Centre, a Canadian agricultural think tank. Martin headed up a branch of the George Morris Centre called the "Value Chain Management Centre" based in Guelph, Ontario. What I saw on the net looked really promising, so flying the Nuffield flag I gave Martin a call, and two days later I was winging my way across to Toronto to meet him.

Meeting Martin I describe as one of the pivotal moments in my studies. His role with the Value Chain Management Centre was to help develop value chains for Canadian agriculture. He held a Masters in Value Chain Management and at the time was working on his PhD. Till this point I had conducted a lot of interesting visits but felt like I was just scratching the surface, I was wanting to drill deeper, but wasn't sure how. In hind sight I was building a very necessary foundation of knowledge, which Martin was about to help me tie together.

Over brunch Martin shared with me some great diagrams on the difference between a traditional supply chain compared with a Collaborative Value Chain. Below is the first of the two diagrams. I've adapted it a little to give some context.

Complex Commodity Supply Chain



Source: Adapted from Ray Collins, University of Queensland

Figure 1

There are many variations of this but above **(Figure 1)** is a fairly typical commodity supply chain for New Zealand lamb and beef. Each of the circles is a key chain partner, and where each of the circles overlap there is sharing of information and a relationship. This sharing of information is an important point which I'll come back to, but for now tuck under your hat that the health of any relationship is reliant on good communication i.e. information sharing. What I define as a key chain partner is they take ownership of the product or more importantly own the information relating to that product, hence why agents are included as chain partners, but service providers like a livestock trucking company aren't. Strictly speaking service providers are still part of the supply chain, but for the sake of simplicity we will limit partners to those owning the product or the information.

Just to explain the distinction a little further an agent's business model is about securing the products information and selling it in exchange for a commission. They establish and maintain the relationships with the buyers and the sellers, acting as the conduit. In many ways the same can be said for the importer and the category manager. The strength of an agent is they are focused on building relationships and subsequently are the go-to person if you want to move a product. This means producers can stick to their knitting of producing and let the agent sit on the phone till 10pm most nights maintaining multiple relationships. This works well with our traditional commodity spot market system. The weakness of this model however is that, in most cases, agents keep the buyer and seller at arm's length. This limits the ability for a breeder and finisher to co-innovate, i.e. create synergies through aligning their operations. In essence agents lengthen the chain and commoditise the product. It is safe to say that the longer the chain the more of a commodity it becomes. This isn't a value judgement on agents, but rather an analysis of the system.

Category Management

I've talked a bit about category management already, and it is very important. Let's drill a bit deeper in understanding the role and power of a category manager. Too often New Zealand producers overlook this important component as they comment on the supply chain. The term "Category Manager" basically means a supplier who manages the category for a customer, generally a retailer, i.e. lamb is a category; fish is a category, dairy, toys, flowers and so on. Essentially retailers and food service companies, like any business, desire to keep things simple when it comes to suppliers. Developing and maintaining relationships costs time and money. So keeping the number of suppliers and therefore relationships to a minimum is one of their core strategies.

Typically a retailer likes to have two competing category managers who supply around 80% of the category with a few smaller players nibbling at the edges. These smaller players might be providing something new or niche, or else are kept there by the retailer as an insurance policy. Just in case one of the two main suppliers falls foul of the retailer. For example: if a category manager and the retailer disagree over price the retailer has the insurance policy of a smaller category manager waiting in the wings. In no time at all, the smaller category manager quickly finds themselves with a lucrative offer they can't refuse and a speedy promotion to premium supplier at the expense of their predecessor.

In the above scenario being a category manager doesn't sound like an exciting prospect, and in most cases they do play a subservient role to the retailer. But the category manager does wear a different hat when it comes to dealings with their suppliers. From their suppliers' perspective they are the gateway to the retail shelf, hence they have the ability to extract a margin out of their suppliers purely through controlling the relationship with the retailer.

Often the category manager has a production, processing or distribution component to their business as well, so they do add value to the product. Importantly however, they sit in a stronger position than those back along the chain. I had a great visit with a bloke in England whose family business turned over £20 million. The business owned several organic dairy farms as well as an organic cheese factory. The business also acted as the category manager for organic dairy products to one of the main UK supermarkets. When I asked him:

> ***"How important is category management to your business?"*** His reply was: ***"Absolutely vital".***

In his case he didn't have other competing category managers to worry about so was in a strong position. But I'm sure if the category continues to grow, his very powerful retailing customer by way of price risk management, will ensure a competing category manager joins the party.

With the exception of Silver Fern Farms' Brooks of Norwich (frozen processing plant), the bulk of New Zealand lamb flowing into the UK gets further processed by non New Zealand owned secondary processors, many who are category managers as well. They process the imported primal cuts of lamb into retail ready cuts before being packaged and onto the retailer's shelf. Many of these companies have a primary processing component where they slaughter and process domestic lamb as well. If we flit across to North America the largely New Zealand owned NZ Lamb Company is in a stronger position than its UK importing counterparts as it acts as the category manager for a lot of New Zealand and Australian lamb. If we look at Fonterra, interestingly they have very aggressively pursued the category management strategy globally. They are now the biggest exporter of milk powder from the USA, managing the exporting requirements for the giant dairy co-operative grouping Dairy America.

It is important to point out that the principle of category management flows right through the supply chain. The retailer is the category manager for the consumer. You could call a New Zealand meat company the category manager for lamb and beef finishers. A stock agent acts as the category manager for a host of hill country breeding farmers who sell store stock.

Supply chain one-night-stands

Auctions feature quite strongly in traditional commodity supply chains. So let's further expand the marriage analogy mentioned earlier to incorporate them. While auctions provide a transparent means of gauging supply and demand – therefore price. They also commoditise a product. Incentives for producers to differentiate their product and add value don't exist, because communication with the next chain partner is not facilitated. If a long term relationship between chain partners is like a marriage, built on communication and trust; then an auction is like a public forum for one night stands between buyers and sellers.

Because an auction keeps everyone guessing until the hammer falls, who will be the buyer of a product, prior communication between chain partners, i.e. buyer and seller, is basically non-existent. What's more the chances of repeat business are very limited, as the next auction starts the guessing game afresh as a competing buyer might offer more money. Because these relationships are usually one offs with no commitment to repeat business, they are equivalent to a one-night-stand between chain partners. These temporal relationships have no foundations of mutual trust, and good transparent communication. Instead of creating a communication bridge, an auction creates a communication void. The seller has no knowledge of who the buyer will be and therefore can't tailor their production to the specific needs of this next member in the chain. Because of this poor communication, potential value is destroyed rather than created. The 'Sunday night auction' where farmers ring around meat companies, is a less public version of the same thing.

When does it stop being a commodity?

At some point along the above supply chain towards the consumer a product makes the transition from being a basic commodity to a niche product. When I say "niche" I mean it has a point of difference other than price over other products in the same category. Also the shorter in supply it is the more niche it becomes.

In many cases meat ceases to become a commodity when it has a consumer brand or a supermarket's private label brand slapped on it. For example McDonalds buy a beef commodity in the form of manufacturing beef. They then cook it up as a hamburger in their fast food restaurants, slap a McDonalds wrapper on it and it becomes a niche product. It is important to make the distinction here between generic brands like "New Zealand Lamb" which is still a commodity and supermarket private label brands such as "Tesco NZ Lamb" or consumer brands like "Angus Pure" beef or "Atkins Ranch" lamb, both niche products. Now obviously there are degrees of commodity and niche. One could strongly argue that a leg of lamb with a supermarket's brand on it is still a commodity and they would be right; the point is that it's less of a commodity and commands more of a premium than a basic old unbranded leg. I'm sure you get my drift.

In October 2008 I came across a generically branded product that was niche rather than a commodity. I was flown up as the keynote speaker for the Canadian Sheep Federation's AGM and while there I was asked to speak to a Lamb Value Chain Workshop. Even though it is branded generically, Canadian lamb is a fantastic example of a niche product because it is short on supply. Canadians are very patriotic and will pay much more for Canadian lamb than imported, but their domestic sheep producers can't meet the consumer demand. Subsequently the average Canadian lamb at the farm gate fetches the producer a handy CAD$162 per head (NZ$228 at a $0.70 exchange rate for a 22.7kgcw lamb). My message to them was: be careful of increasing supply to a point where they commoditise their product.

Component efficiency versus chain efficiency

Now I've taken a bit of literary license and called **Figure 1**, a '**Complex'** supply chain. **'Dysfunctional'** is the other word that springs to mind. The reason I use the word "complex" is that each of the

chain partners is a separate component operating largely in isolation from the rest of the chain and the chain is very long.
Generally speaking, within our supply chains each chain partner, component or link in the chain is very efficient at what they do. New Zealand meat and wool producers are the envy of the rest of the world in terms of consistent quality, scale and efficiency and the same can be said for our lamb processing sector, our strong wool brokers and our wool exporters; the slim margins on offer have made it a matter of survival. By comparison with other countries' supply chains, each New Zealand component or chain partner is individually very efficient. Even New Zealand importers of lamb into the UK are very efficient traders, as I alluded to in Section 1, driving their component very efficiently. Over the decades the vast majority of our R&D has been focused on individual component efficiency; which is partly why New Zealand producers have successfully chased more and more production. Sadly we haven't banked these increased efficiencies in the form of greater profits. Instead we have passed them on in the form of cheaper products due to our fragmented rather than consolidated nature, but more on that topic later.

At a short term tactical level each chain partner is doing a splendid job, yet too often when you take a whole chain strategic view many of the chain partners are very tactically performing the wrong strategy. Component efficiency should always come secondary to chain efficiency, but of course in these long chains this is nigh on impossible to achieve, particularly if no entity with enough power takes a strategic view of the whole chain, forcing everybody else to dance to their tune.

A great example of this continual trade off between component efficiency and chain efficiency is the processing component in our meat supply chains. Now we all know that there is a lot of capital tied up in processing infrastructure. Of course with that capital investment comes a lot of overheads. Running a plant at capacity for nearly 52 weeks of the year with low inventories would be a processor's dream scenario; as they get to spread their overheads across the maximum amount of animals slaughtered. This has a large bearing on price signals to producers to supply product out of season. But these out of season animals aren't always what the consumer wants.

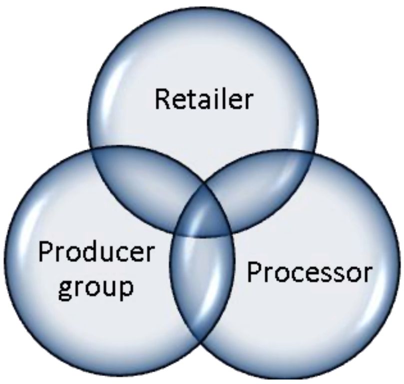
A very blatant example of this with lamb was in 2005 when many farmers including myself chased the late winter and early spring premiums on offer for heavy lambs. Subsequently truckloads of out-of-season lambs were carried through and killed at quite heavy weights. Tactically this was great for extending the season and spreading the processing overheads, but poor strategically. It resulted in a real struggle to move these very heavy lamb cuts, due to consumer resistance. It wasn't what the consumer wanted. Now this is a pretty simplistic debrief on that scenario but essentially what happened was component efficiency compromised chain efficiency. The processors took a tactical view rather than a strategic view. They were too far removed from the consumer and therefore had insufficient consumer information and understanding to put strategy before tactics.

What we have neglected in our blinkered pursuit of more and more production and component efficiency is chain efficiency. While the **'parts of the sum'** might rate well individually, the lack of synergies mean the **'sum of the parts'** is dismal.

So in summary here are a few of the problems with this chain:

1. There is little if no financial incentive to **collaborate**.
2. The system is all about buying low and selling high, so there is a disincentive for transparent **information sharing** - it undermines any ability to negotiate or play the market.
3. **Innovation** is focused at individual component level, not at a whole chain level (called co-innovation), as this requires transparent information sharing. This further entrenches a commodity mindset rather than a value added approach.
4. **The chain is long** with multiple chain partners all taking turns at owning the product, taking a margin and controlling the information. Each focuses on their individual component efficiency rather than whole chains efficiency. Chinese whispers is rife in this chain.
5. The chain's system is built on **internal competition** with each chain partner profiteering off each other by attempting to buy low and sell high. This spot market model further entrenches a culture of mistrust and poor communication, leaving little energy to compete externally against other chains.
6. And lastly there is no way with a complex or dysfunctional structure like this that the chain can be totally **consumer focused**. The chain structure limits the producers to being a bunch of commodity producers responding to a raft of non-consumer price signals, trying to find a home for their product.

Collaborative Value Chain



Source: Adapted from Ray Collins, University of Queensland

Figure 2

Coming back to brunch in the cafe with Martin Gooch, the second diagram he shared with me was the three circles above. **(Figure 2)** Compared with the **'Complex Commodity Supply Chain'**, the above **'Collaborative Value Chain'** is a vastly superior concept. The key thing here is that it has only three key chain partners greatly reducing the complexity. And each of these chain partners looks at the same information. See how the three circles all overlap in the centre. This signifies transparent information sharing between all partners, including costs of production, genetics, margins, inventory management, consumer preferences, etc. One other point to make is that it doesn't have to be the three partners listed above. You could substitute the retailer with a restaurant chain, the processor with an importer and so on. The other chain partners that we saw in the complex commodity supply chain **(Figure 1)** still exist, and they still perform a very important function, but they have been relegated to service providers. No longer do they take ownership of the product or information. Instead of extracting a margin through trading the product or information, they are paid a service fee.

Here are some of the important aspects of the Collaborative Value Chain:

1. **Collaborative** - each chain partner is rewarded equitably for their contribution. The system is such that they are incentivised to grow the collective pie rather than compete for their individual slice of it. This might be by way of a joint venture, profit sharing, or at the least a long term contract.
2. **Information sharing** – each chain partner shares information openly with the other chain partners, because this grows the collective pie. The system doesn't financially reward a chain partner for withholding information from others. Instead the financial incentives lie in sharing information up and down the chain.
3. **Innovative** – information sharing leads to co-innovation, i.e. rather than working in isolation to each other, chain partners work together to develop new products or collectively solve product or logistical problems, etc. A value chain will always out-innovate a traditional commodity supply chain.
4. **A short chain** – to achieve the points above the chain can't be long. It is hard to have strong relationships with multiple parties. Ideally a value chain should have no more than three partners or points of ownership. Everybody else should be relegated to service providers who don't take ownership of the product or control the information. With too many vested interests in a long chain, you can never achieve transparent information sharing or avoid Chinese whispers.
5. **Competes externally not internally** – the value chain is a closed circuit and everyone is on the same team. Competition is seen as healthy but only against other chains. Internal competition has been ruled out of the chain's design. Subsequently chain partners don't profiteer off each other, by screwing each other down on price. They don't have a commodity trading mindset where profits come from buying low and selling high.
6. **Totally consumer focused and 'Demand-driven'** – all about market pull, not product push. Transparent information sharing up and down the chain means producers and processors can react in real time, matching their production and processing to consumer behaviour and demands. They also run on lower inventories. Instead of producing a generic commodity the value chain is delivering a niche product to a pre-determined group of consumers, in a very efficient manner.

But the value chain approach still isn't the answer!

With my obvious bias as a producer the ultimate Key Performance Indicator (KPI) as to whether the value chain approach is worth embracing is that it sustainably lifts farmers' profits. One of the benefits of a Nuffield Scholarship is its length. Being on the road for nearly half a year gives you plenty of time for your thinking to mature. When Martin shared these diagrams with me I thought I'd found the Holy Grail and could jump on the next plane, head home; **"Mission complete, I've found the answer!"** Thank goodness I didn't, my thinking still had a lot more maturing to do. It wasn't until I got to the UK and Europe and saw firsthand how retail operated, that I could put the great gems of wisdom gleaned from Martin into context.

As enthusiastic as I am about the value chain approach, there are some good case studies showing being part of a value chain is not the silver bullet we are all looking for. Producers still need to be very careful to protect their margin. The Australian Farm Institute (AFI) commissioned researcher Michael O'Keefe to answer the question; **'Do farmers get value from value chains?'** When discussing the findings AFI's Executive Director Mick Keogh stated:

> ***"What is obvious is that in cases where farmers have successfully been able to obtain extra value from such marketing arrangements, this has occurred because the farmers have developed unique skills and capabilities that cannot easily be copied by others, including other organizations involved in the value chain."***

If I was to put on my futurist hat I would predict that in ten years time the value chain approach will be as common place as the traditional commodity supply chains are today. It won't be quite as I've described it above but it will be a lot closer to the collaborative model compared with the old traditional commodity supply chains. The value chain approach is very efficient and it is where potentially the greatest efficiencies lie in the fight against increasing costs, food security fears, through running lower inventories and lower wastage of non spec-production. So naturally it is how companies will innovate and change - out of necessity.

There will however be one key ingredient missing, and that is the idealistic notion I have painted of all three chain partners sharing the pie equitably. Even trying to get just three chain partners together with the same set of values and philosophies is, while achievable, a rare and impressive effort. Particularly if one of them is a retailer used to being the supply chain leader wielding the most power and taking the greatest margin. Unless mankind miraculously goes through a much needed transformation regarding how self-centred we are, the majority of value chains of the future will still have one dominant chain partner who takes an inequitable slice of the pie simply because they can. So the wisest approach for we producers is to pursue the collaborative value chain model with all speed, but ensure we are big enough with enough collective market power so we bank the increased efficiencies we create rather than passing them on as cheaper products through weak selling. If we don't, the only producers to make more money out of being in a value chain will be the innovators and early adopters. Once value chains become common place any premium will have long since disappeared.

The question looking forward is who will bank the increased efficiencies from the value chain approach? Or probably the more direct question is who will be the most consolidated in our supply chains of the future, therefore the ones who wield the power. One key thing in New Zealand's red meat and wool producers' favour is that unlike many pork and poultry producers of the world who are contract breeders and finishers, collectively we control supply and control our genetics. And producers already have a fair degree of ownership through co-operatives. So we are starting from a stronger base.

3. Who Controls the Power in the Supply Chain?

We currently live in a capitalist world, and if you want to do well you need to understand the rules of capitalism and play by them. One of those rules is, the more consolidated you are the more power you have over the supply chain. Consolidation is synonymous with power. Modern communications and technology have made scale and consolidation far easier to achieve and manage. Multi-national companies are far more common-place today compared with the middle of last century. Right now all over the globe there are numerous battles raging over who controls the power in various supply chains. Whoever controls the power over the chain is the supply chain leader and wears the crown of being the price maker. They get to extract the biggest margin and call the tune for the rest of the chain. No one would argue against the fact retailers have led the charge on consolidation; they are (with the occasional exception) the price makers over their respective supply chains. Even back in 2001, this trend was plainly obvious. Researcher Glen Thompson of Global Linkages Pty Ltd described it this way:

> ***"The power is moving to larger retailers with a rapid rise in the number of US$20 billion + retailers. There is a move from local to regional to national and national to global. The retailers are commencing global promotions. The leading retailers are lowering their prices but at the same time increasing profits."***
>
> *Glen goes on to say:* ***"The move of the retailers to consolidate and globalise is led by a change in the international environment. The forces for change are low growth, saturated markets, de-regulation, new technology and logistics. The result is consolidation and the implications are a shift in power, increase in private labels, innovation and leadership."***
>
> *'Building Partnerships and Alliances in International Food and Agribusiness.' Report commissioned by Rural Industries Research and Development Corporation, Australia.*

Retail consolidation has increased massively since Glen's observations in 2001. And full marks to these aggressive companies. They have played the capitalism game well, strategically seizing the opportunities afforded by a deregulated free market environment.

Since we are on this subject one can't go past UK food retail, arguably the most sophisticated in the world. If you want to know what the next food retail trend is, chances are UK food retailers are hatching it or at the very least amongst the early adopters. UK food retail is currently dominated by four big supermarkets. According to TNS Worldpanel data, at August 2008 market share was broken down with Tesco 31.6%, ASDA 17%, Sainsbury's 15.9% and Morrison's 11.1%. Each of these are multibillion dollar companies. Tesco for example in February 2008 posted a turnover of NZ$123 billion and a pre tax profit of NZ$7.3 billion (38.5p exchange rate). Compare this with New Zealand agriculture's turnover of NZ$17 billion in 2007 and you get an appreciation of just how big and powerful Tesco is and by comparison its competitors.

In Australia food retail is very much a duopoly, controlled by Coles and Woolworths. Australian owned Woolworths in turn own Progressive in New Zealand who go head to head with Foodstuffs' 54% market share. Like Australia, New Zealand is very much controlled by a food retail duopoly.

Just for the record, with all my commentary on supermarkets, I'm not jumping on the well ridden bandwagon of supermarket bashing. They have been very savvy in today's market place, and the rest of us have been very slow. The free market is a very competitive and cut throat place where only the strongest survive.

Low Costs of Production - New Zealand's Competitive Advantage - the Myth

Visiting with a lot of producers as I travelled around, one topic that came up regularly was a comparison of farmgate product prices. What was blatantly obvious was the large price differential between New Zealand lamb and beef compared with domestic production of the same product. In truth, especially with lamb, New Zealand raw product was superior to what I saw overseas in terms of sheer numbers of uniform and consistent carcasses. Of course that could be written off as a parochial comment and the fastest way to pick a fight with a Welsh sheep farmer! But I'll stand by my comment after seeing the multitude of breeds and small varied lines slaughtered in Northern Hemisphere plants. While in some countries New Zealand lamb sells cheaper on the retail shelf than domestically produced lamb, in the UK cut for cut our price was on a par with British product, apart from more promotions on New Zealand lamb.

It is no secret that retailers make a much higher margin on New Zealand lamb than they do on domestically sourced product. Subsequently, wherever I went, one of the questions I loved asking of importers and retailers was:

> ***"Why is New Zealand lamb so much cheaper to buy wholesale than domestically produced lamb?"*** The standard answer I received both in the USA and UK was: ***"New Zealand's costs of production are lower."***

Initially I thought I must be missing something. Wouldn't you think if we have done such a good job of producing the same product at a cheaper price that should be to our benefit not the retailers? But no, it appears not. What it shows is that we are absolute price takers. In this capitalist world we do business in, the supply chain leaders will only pay the bare minimum; only enough to keep their suppliers on subsistence margins so they continue to produce and supply product. While we might envy our North American and UK cousins for the attractive prices they receive, their less efficient systems (therefore much higher costs of production) mean they need the higher prices to have the same profitability as us. It is an absolute myth that lower costs of production are New Zealand's competitive advantage. It could be....... but because we are weak sellers, we pass on rather than bank the margin all our innovation and hard work has created**. Could this be another definition of madness?**

Producer Boards and the power vacuum they have left

As a quick history lesson, when you go back a few years New Zealand, like other western countries, had a much more regulated economy. Government checks and balances limited the ability of any one company to gain a near monopoly. Producers were much more protected back then and one could safely argue, a lot less efficient and consumer focused. Producer Boards were the statutory bodies established to protect producers' interests and were a significant market force in the various supply chains. Their sheer scale and in some cases monopolistic control of supply dictated so.

Fascinatingly, as these boards were deregulated and we moved to more of a free market, this created a power vacuum. While I certainly wouldn't advocate a return to the Supplementary Minimum Pricing scheme paid to farmers by the Meat Producers Board, there are some interesting lessons to be pulled out of the history books. The principle here is that there always tends to be one dominant player controlling the power over the supply chain. If they are removed then another entity will rise to fill that power vacuum. You see this throughout history; as one political or military empire crumbles another rises to fill its place.

As the Meat Producer Board lost its position of power we have seen an ongoing scrap amongst meat companies to become the dominant player. While civil war raged in the New Zealand meat industry, retailers in our offshore markets steadily consolidated, gaining more power over the supply chain. Because New Zealand meat companies didn't match this by consolidating also, retailers increased their margin on lamb at expense of New Zealand farmers. Meat and Wool New Zealand's Economic Service data shows 2007-08's average sheep and beef farm profit hit a 50 year low of $19,400. This is symptomatic of how much margin has been lost. Of course a drought, exchange rates and rising costs have helped us achieve this dismal figure, but one of the biggest culprits is lamb. We produce and export a far superior product to the little 12kg frozen carcasses shipped in the 80's. Yet despite massive productivity and efficiency gains over the last 20 years, and a huge amount of extra added value to lamb, we are making less money and the margin at retail returned to the farmer has shrunk.

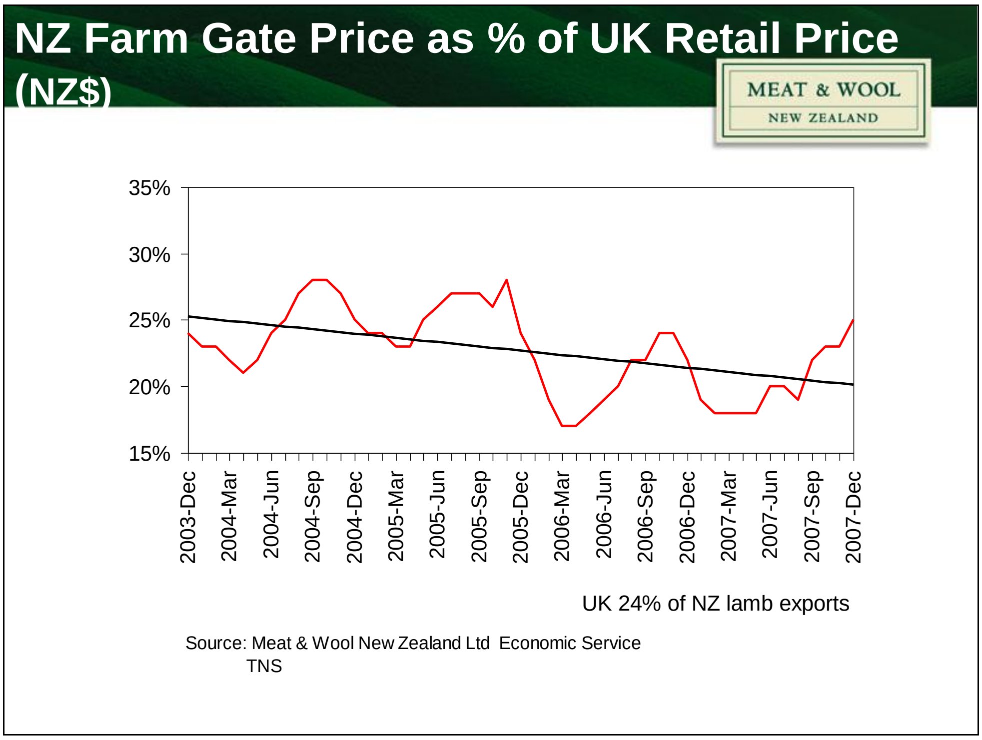


Figure 3

TNS data supplied by Meat and Wool New Zealand's Economic Service, in **Figure 3** (above), shows how in just four years, New Zealand farmers' share of the UK retail price of lamb shrunk 20%: starting at 25% of the retail price in December 2003 it shrank to 20% in December 2007. And just in case you were wondering, the trade weighted exchange rate for lamb was relatively constant over that same period.

UK retailers don't just like beating up on the colonials; they've been squeezing their own domestic producers as well. Quality Meat Scotland and Britain's Meat and Livestock Commission's data, in **Figure 4** (below), shows the same trend. UK Farmers' share of the pie dropped from 50% to 45% over the same period as the above graph.

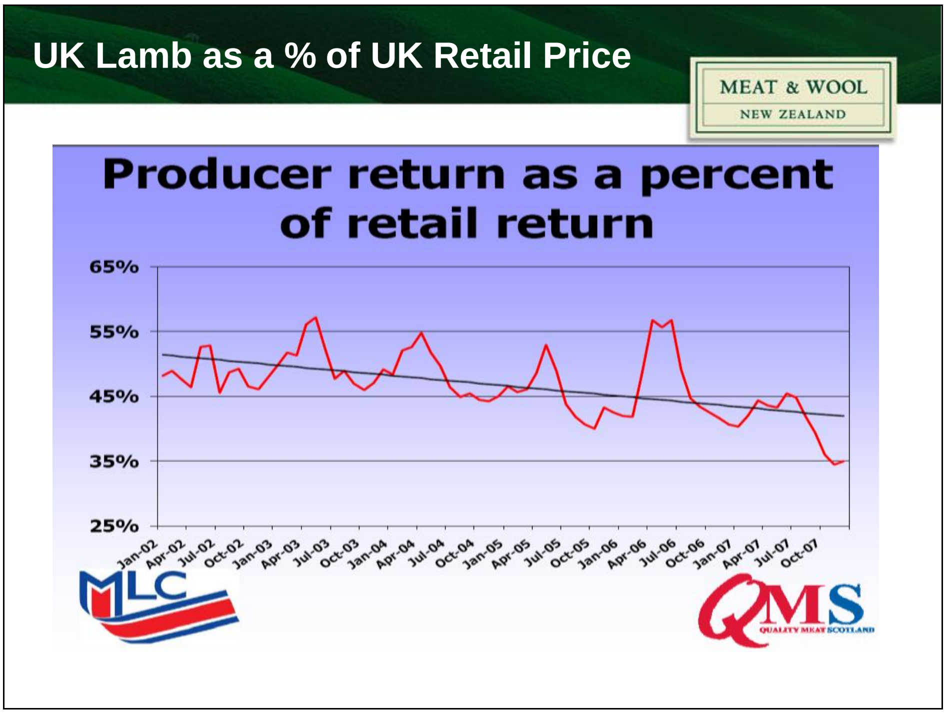


Figure 4

The data also supports my earlier argument, regarding Northern Hemisphere producers needing the higher prices just to stay in business. If New Zealand producers received 45% of the retail price we would think we had died and gone to heaven. Instead you can't even plot New Zealand producers' share of retail prices on the above graph. The percentage figures don't go that low.

In a 2007 public relations leaflet titled **'Why Beef and Sheep Farming Matters'**; Britain's National Farmers Union stated:

> ***"...prices to farmers for beef cattle and lambs need to rise. To what extent that knocks-on into an increase in retail prices will depend on whether supermarkets especially are prepared to accept slightly smaller profit margins in order to allow the producer to earn a sustainable price."***

A similar price trend has also occurred in the USA. US Senate Agricultural Committee data shows that in the 16 year period to 2000, the inflation adjusted price of US food rose 2.8% but prices at the farm gate fell by 35.7%. Many would point to the green revolution and rightly say producers have flooded the world with cheap food, yet consolidation at retail has also played a massive part in this equation.

When looking at the power vacuum principle in New Zealand again, it is interesting to stop and look at our dairy farming neighbours. They transitioned much more seamlessly, from the deregulation of the Dairy Board to the superior commercially driven powerbase of Fonterra. In large part this can be explained by the principle discussed in Section 1; ***"The system determines the culture"***. The culture amongst dairy farmers is much more collaborative than can be said for sheep and beef farmers. Why? Because the system they operate under is very different. Firstly they produce a highly perishable product, so farmers can't muck around playing on a spot market. Instead they sell milk on a contracted basis and they get on and produce the product. Unlike sheep and beef farmers their livelihoods are not dependant on competing with their neighbour on price, so there isn't the same culture of individualism. Creating Fonterra wasn't counter cultural for the bulk of New Zealand dairy farmers; in fact it made a lot of sense. As I write this, the dairy payout for Fonterra shareholders has just dropped massively and there is talk of further cuts to come. But no one can argue against the fact New Zealand's dairy industry is far more co-ordinated, efficient and organised than New Zealand's meat and wool industries. Of course consolidation and market power doesn't equal immunity against commodity price fluctuations; however it does create an ability to weather and climb out of a downturn a lot better.

Getting a bunch of farmers to agree on something is about as easy as herding cats!

Now by comparison let's examine the system of the sheep and beef industry. Instead of a highly perishable product we have products that are very flexible regarding when we choose to harvest them. And in the case of wool it has the added ability to be stored for long periods once harvested. This has allowed a spot market system to develop where if the price today is no good; "wait for next week". In essence sheep and beef farmers, compared with dairy farmers, are absolute traders. Even the purely breeding operations still tend to give a lot of thought as to when, how and in many cases who, they should sell their production to. Of course there are exceptions, but generally speaking New Zealand's meat and fibre supply chains can be described as a system of buy low and sell high up and down the chain. A farmer wanting to sell 100 store bulls will do their best to squeeze an extra 10¢/kg of live weight out of the buyer, as it has a massive bearing on their bottom line. While ethically they have an obligation to share any negative information about the animals, there is very little short term incentive to, particularly if that information gives the buyer an ability to leverage them down in price. Likewise if a finishing farmer buying those same bulls has a very lucrative end destination for them, they'll tend to keep that to themselves; if the seller knew they might become a little bolder in their asking price. For now we are discussing the New Zealand end of the supply chain but it is worth mentioning that this adversarial relationship exists right up and down the supply chain, with each chain partner competing for their slice of the pie.

In 1998, O'Keeffe, a researcher residing in Australia identified four key characteristics which hinder trust-building in agricultural supply chains:

- **In commodity markets the sum of value created is fixed and the major issue is how it is divided among channel participants. This is a win-lose game and leads to adversarial relationships;**
- **Auction systems and regulated markets isolate farmers from the rest of the food system and farmers do not gain any insight into their customers, and why they act the way they do. Likewise processors have not needed to, or had the opportunity to, develop relationships with growers;**

• Supply chain management does not remove the volatile nature of prices and supply – both quantity and quality - characteristic of agriculture. Price volatility puts pressure on the relationship;
• Interdependence is difficult to achieve owing to size imbalance between processors and farmers.

Remember the marriage analogy I used in Section 2 where poor communication is the first step of an unfortunate chain reaction ending in individualism. The buy low sell high system breeds poor communication and mistrust between chain partners. Obviously if you don't trust someone the last thing you want to do is collaborate, so individually sheep and beef farmers tend to go it alone - the system incentivises it. Instead of a culture of collaboration we have a culture of individualism. This is why the meat industry despite all the discussion around consolidation still hasn't filled the power vacuum left by the deregulation of the Meat Board. It is counter cultural as an industry to do so.

Graeme Harrison, Chairman of ANZCO, recently stated in a speech to New Zealand Federated Farmers Meat and Fibre Council:

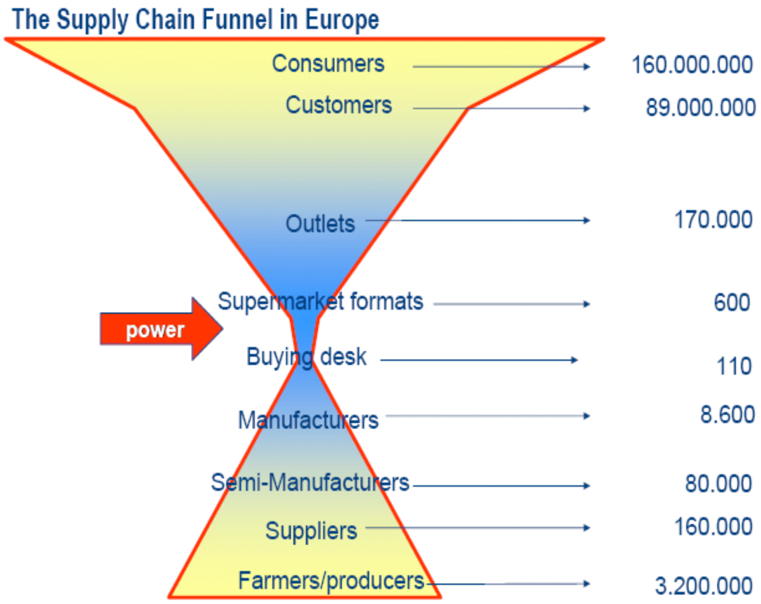
> ***"When it comes to farmers choosing between meat company competition or consolidation, farmers have always elected to have choice."***

The reason why farmers have always opted for choice is explained by the culture of mistrust. Because the industry's trust levels are so low, it is incredibly challenging for farmers to break out of their default paradigm and opt for competition. Trusting a meat company or other chain partner is counter cultural. This is what O'Keefe was alluding to above when he said: **"... a win-lose game and leads to adversarial relationships."** However, pain is always a catalyst for change and New Zealand meat producers have had their fair share of financial pain lately.

Dividing up the pie, who gets the first slice?

If we hark back to the pie analogy, but put a different spin on it, generally speaking retailers are the price maker over their respective supply chains. They set the margin or take the slice of the pie that they want or need to keep their share price attractive. Then the rest of the pie is thrown to the remaining chain partners to scrap over. The degree that each tier of the supply chain is consolidated determines who has the next priority over taking the biggest slice of the remaining pie. Invariably in traditional agricultural commodity supply chains, the category manager gets second priority, third priority goes to the primary processor and lastly producers who are the least consolidated take the last priority, i.e. they get the scraps.

The hour glass shape in **Figure 5** (below) shows very graphically how power within Europe's supply chain is located at the narrowest point in the funnel. Supermarket buying desks, which own the retail outlets, are the most consolidated section of the chain, therefore dictate the prices.



Source: Capgemini, courtesy of Hamish Gow

Figure 5

There are always short lived exceptions of course. In 2008 the globe just experienced one where dairy and grain producers were smiling from ear to ear. A commodity boom due to a global shortage in grain and dairy products set new records in prices, sparking massive food inflation and food security fears for retailers. Unfortunately for producers, with the onset of a global financial meltdown this commodity boom seems to have vanished as fast as it materialised. The smiles have been wiped off the producer's faces as they returned to their familiar position at the bottom of the food chain, producing more and more just to stand still. If you are a producer reading all this depressing talk and feel like slitting your wrists; the cure to this affliction is where producers act collectively, but more on that later.

Global food companies

One of the great benefits of a Nuffield Scholarship is you gain a global perspective, and more importantly you put New Zealand's agricultural industries into the context of that global picture. One of the trends I observed was the increasing globalisation of food companies. I might sound like I'm stating the obvious here; of course most of us have heard of Fonterra, Nestle, Heinz, the grain giant Cargill, Unilever and so on. As retailers have become larger and more powerful so have many of their suppliers. But interestingly in the red meat industries there has been no significant meat company aggressively pursuing a global procurement strategy. That is until recently with the rapid rise of JBS a Brazilian beef company recently crowned the largest beef processor in the USA and the globe.

Here are a few facts and figures off JBS's website:

1. 30% growth per year last several years, with the first international purchase in 2005.
2. 63,000 employees worldwide.
3. Slaughter capacity of 79,200 cattle per day (approx 28million p.a.) and 48,000 hogs per day.
4. Annual sales of approximately US$ 21.5 billion.
5. Processing plants in Brazil, Argentina, USA, Australia, and Italy.

With the purchase of USA's National Beef in March 2008, 37 year old CEO Wesley Batista stated it:

> ***".... will complement our business plan for growth in beef processing in the United States and especially the Pacific Rim."***

JBS's business model is best described as **'optional origin beef trading'**; similar to that of Cargill with grain. 'Optional origin beef trading' means: JBS now have the option of procuring beef from an assortment of origins to supply an assortment of markets 52 weeks of the year. This gives them huge flexibility; as they factor in seasonality, type of production, exchange rates, freight costs, importation tariffs and quotas.

Another player to watch is Vion Food Group, a Dutch based food company with an annual turnover of €9.6 billion (US$13.5b) owned by Dutch farmers union ZLTO. Vion Food Group employs 35,000 staff. Their annual report shows that similar to JBS, Vion has been undergoing some impressive growth, since 2003 averaging 32% per year. Vion are very much a European based company and a very large pork and beef processor. But they do have a direct relevance to New Zealand. While I was in the UK they purchased Scottish owned Grampian. Subsequently Vion are now the lamb category managers for ASDA and Tesco, secondary processing imported New Zealand lamb for their retailing customers. Vion also own Australia's largest chilled lamb processor and exporter Tatiara in South Australia. While at an AgriFood Chains Conference in Netherlands I heard Vion's CEO, Daan van Doorn speak. There is no question that these guys are pursuing a very aggressive global strategy.

How much time do we have?

As a word of warning to the New Zealand meat industry, if we continue to wage civil war amongst ourselves, we are leaving ourselves wide open to a large multi-national company entering the fray, with a much larger war chest, like the two just mentioned. The power vacuum we discussed earlier will be filled, but along with it will die the opportunity of a consolidated farmer-owned meat-company, serving farmers' interests.

4. Acting Collectively

So with all this doom and gloom what is the answer for producers? How do we get off this continual treadmill of having to produce more and more just to stand still? Well, we've touched on it several times already but **'united we stand divided we fall'**. By acting collectively producers have incredible power. The synergies of market consolidation are significant, as we've already covered. While not perfect, the farmer-owned co-operative is the best model devised so far to achieve this goal. I haven't always viewed consolidation this way; one could describe me as a relatively recent convert.

When I started out on my Nuffield travels in February 2008 I was still sitting on the fence. The Meat Industry Action Group had been stirring the debate about the need for New Zealand's meat industry to consolidate. And while I was in Australia Owen Poole's ambitious Mega Merger Concept was floated, creating an excited furore amongst New Zealand's farming media. Since it was so topical I decided to adjust my study focus, to settle the question in my own mind and ensure the insights I bought home were relevant to the industry. By the four month mark in my travels I was absolutely convinced consolidation was necessary. The tipping point for me was visiting the UK and hearing countless stories first-hand, of supermarkets very deliberately playing their suppliers off against each other. New Zealand meat companies happened to be one of their favourite targets.

Consolidation is by no means the whole answer but it is the first step of a series that we will cover. Winston Churchill once said about democracy:

> ***"Indeed, it has been said that democracy is the worst form of Government except all those others that have been tried from time to time."***

Like democracy, many alternatives to a co-operative have been tried by producers from time to time. However they quickly grow arms and legs, moving away from their founding intention of delivering good prices to farmers. As a vehicle for producers to act collectively and in their best interests a well governed co-operative, despite all its failings, is the best anyone has come up with.

A co-operative has, at its core, a mandate to distribute profits to farmer shareholders through fair product prices. Contrast this with a private or public company which is all about distributing profits to shareholders through dividends, and maintaining a good share price. 'The system determines the culture' and the culture of a private or public company is to squeeze as much as possible out of others in the supply chain to maximise the bottom line, and therefore a dividend to shareholders. What's more, though a company may start out with farmer-only shareholders, the net soon gets cast wider in the pursuit of extra capital. Or farmer shareholders might cash up their shares. Before you know it the company has a majority shareholding that has no financial incentive whatsoever, to pay producers more than they have to. A few quick New Zealand examples are AFFCO, Wool Services International, and more recently Wool Equities Ltd. All these companies were initially farmer-owned. Just for the record I'm not making a value judgement on any of these companies. They are governed and managed professionally within the structure and constitution set for them. Unlike co-operatives, distributing profits to their producer suppliers through better pricing isn't part of their systems' designs and secondly, they like everyone else pay the market price.

But co-operatives don't deliver any better prices than private or public companies?

You often hear it said that co-ops don't pay any better prices than the competition, sometimes even less. So how can they be serving farmers? Very quickly, my answer to that is: co-operatives keep the competition honest by setting a floor on prices. Competing companies would have no suppliers if they didn't at least match the farmer-owned entity. Secondly and more importantly, when margins are so tight, as they are in the meat processing business because of reasons already discussed, and procurement competition is so intense, it is incredibly hard for a co-operative to behave as it was truly intended to. If New Zealand had a consolidated meat industry under a farmer-owned co-operative, strategically positioning itself as a strong seller, there would be greater margins to pass on to producers in the form of better pricing. Fonterra has probably sprung into your mind more than once as we've drilled into some of these arguments. While it is foremost in your thoughts think on this: if Fonterra was a private or publicly listed company, do you think it would have paid its producers $7.90/kg milksolid at the height of the dairy boom? Or would it have kept the extra profits to distribute to shareholders in the form of dividends?

But what about competition?

When debating the pros and cons of consolidation, the competition argument always gets rolled out. Absolutely no question - competition causes any entity to sharpen its game. But competition falls into two camps; healthy and unhealthy. The key is to create an environment of healthy competition that aids rather than undermines achieving the end goal; i.e. a sustainable and profitable industry.

The reality is, we have more unhealthy competition than we know how to handle. Because the vast bulk of our supply chains don't operate in a collaborative fashion, when it comes to dividing up the pie, even if farmers and a co-op act collaboratively there is still intense competition with the remaining chain partners. Secondly, while New Zealand might be the globe's biggest exporter of lamb, dairy and strong wool, we are still tiny when it comes to the world's total production. 'New Zealand lamb' is a dirty word (more so than beef or wool) to most domestic lamb producers in our export destinations because it's so cheap. We are competing in a global marketplace, so why should we feel obliged to fight amongst ourselves.

Where the competition argument does hold a little water is around processing efficiencies, logistics. Without at least two strong companies trying to out-innovate each other, will the efficiency gains in such areas drop off? Ultimately it comes back to top governance and quality management ensuring a culture of healthy competition exists within the organisation; there are no shortage of huge companies internationally who have demonstrated just that. One doesn't need to look hard: Wal-Mart Stores Inc, the planet's largest retailer has a culture of efficiency and cost cutting second to none. Retail Research Director, Pete Abel of Boston's high tech consultancy firm AMR Research, says:

> ***"We view Wal-Mart as the best supply chain operator of all time."***

David Glass Wal-Mart's CEO from 1988 to 2000 described it this way:

> ***"The fact is the (Wal-Mart's) low prices are derived from efficiencies Wal-Mart has invested in - the system and the culture. It is a very low cost culture."***
>
> *Extracts from: 'The World is Flat', by Thomas L. Friedman*

Co-operatives are too socialist

As we discussed in Section 2, the study of supply chain relationships is very similar to the study of human relationships. A key principle and one of my favourite lines is:

> ***You must connect people with the consequences of their choices.***

Be they good or bad choices, the individual concerned must be either rewarded or penalised or they have no incentive to change their behaviour. I'm sure most parents, like me, at some stage have had a toddler revel in dropping items from the kitchen high-chair and while shopping a supermarket trolley. Seeing Mum or Dad bend down and hand back the item starts out as a hilarious game the first couple of times. But it doesn't take long to wear off on the busy parent. The fastest way to teach the offending toddler is to leave the item on the floor. A screaming toddler in a supermarket, arm outstretched towards their trophy, always challenges a parent's resolve. But by being connected with the consequences of throwing the item on the floor the little darling soon learns the behaviour is unacceptable, and results in a change. Same goes as they grow up. If they ding the car because of reckless driving make them pay for it. Coming back to agriculture; when New Zealand agriculture lost its subsidy safety-net in 1985, farmers were suddenly very connected with the consequences of their choices. The system was redesigned and in very quick time the industry developed a culture of innovation like you wouldn't believe. It was either get more efficient or go broke. Subsequently New Zealand producers are some of the most market-focused and efficient in the world. But we still have a long way to go. A recently released sheep meat report states:

> ***"...there is a mismatch between the needs of the market and the characteristics of the product."*** *The key elements of success and failure in the NZ sheep meat industry from 1980-2007*

comparing ourselves with other countries' subsidised producers can breed complacency.

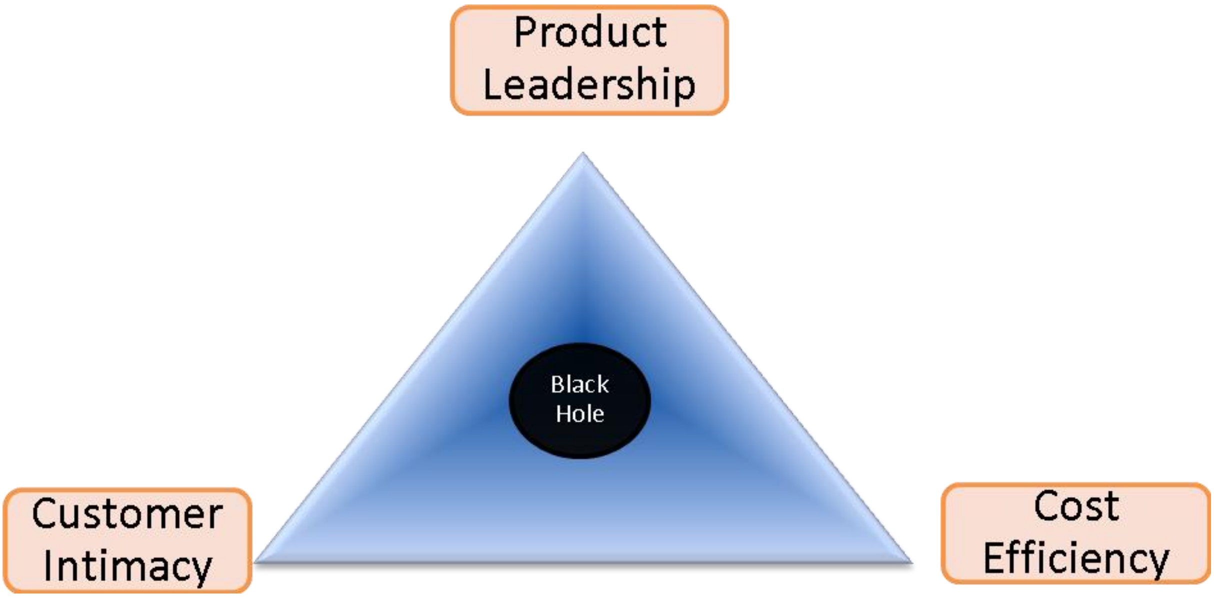
One of the failings of the traditional co-operative structure is its very geared to shareholders producing and supplying a generic commodity. It is incredibly crude in connecting different producers with the consequences of their choices. The very generic grading-based schedule that meat companies calculate prices on is totally geared to a commodity. Freighting of livestock, number of animals per consignment - are all paid on one big averaging system. For example: if a co-op developed a niche market and pulled together innovative supplier shareholders, in to a producer group willing to tailor their production to suit that niche market. It would hit a snag when it came to paying those suppliers a premium for the added value they created. As other shareholders observed, they would quickly envy the premium on offer and in the spirit of the co-operative demand equal prices for their production; or the opportunity to be part of the producer group. In its traditional form a farmer-owned co-operative struggle to treat different groups of suppliers preferentially. Yet to break new ground and adopt a value chain approach this is exactly what it needs to do.

ANZCO as a private meat company has several producer groups going now, one tied into a much-coveted lamb contract with specialty UK supermarket Waitrose. These producers are getting much better market information regarding their product and can tailor their systems and production accordingly. Instead of a production-driven supply chain, these producers are in a demand-driven value chain. Treating suppliers differently is one advantage a private or public company has over a co-operative.

A co-operative with multiple value chains

Nuffield Scholars are supposed to be ahead of the curve in terms of innovative thinking. So I'm going to throw some (to my knowledge) unproven concepts out there, to challenge contemporary thinking and more importantly, to stimulate ideas. In particular, how the traditional co-operative can adapt to facilitate multiple value chains, better incentivising farmers to break out of the commodity production cycle. But first a little background:

I was in Michigan, USA, staying with a fellow Kiwi, Hamish Gow. An Associate Professor at Michigan State University, Hamish headed up an international value chain and market linkages team. A very sharp and cutting edge thinker, Hamish was just the guy I needed to spend a few days with. It was probably well after midnight, over a glass of wine solving all the New Zealand agricultural industry's problems, when Hamish shared with me the diagram below:



Source: Hamish Gow Michigan State University

Figure 6

The concept was initially developed by the Harvard Business School and then packaged into a much easier diagram to understand by Hamish. The triangle shows the three business strategies that businesses will employ. Every successful business will sit somewhere on the outside edge of the triangle, with one particular strength being their point of difference over their competitors.

- An example of **'cost efficiency'** is Wal-Mart. Consumers go to Wal-Mart to buy respectable goods at the cheapest price available. As we discussed earlier on they have a very low cost culture and are market leaders in their field.
- What consumers don't go to Wal-Mart for is the store's **'customer intimacy'** - the shopping experience. Other retailers are leaders at that and they sit more towards the customer intimacy corner of the triangle. A North American example is specialty food retailer Wholefoods, or in the UK, Waitrose. These stores corporate culture is aligned with catering for the high-end consumer wanting a truly unique shopping experience and willing to pay for it. They are far less efficient than the cost-efficient Wal-Marts of this world, but because of their completely different focus and clientele they can afford to be.
- The true innovators of new products are the **'product leadership'** companies. These guys are exceptional at coming up with new product development and launching them into the marketplace. Apple is a prime example, leading the field in developing new products such as the iPod, iTunes, and iPhone. Apple's strength is in creating the new craze. By the time the cost-efficient companies have copied it and worked out how to make it cheaply, Apple has moved onto the next new idea.

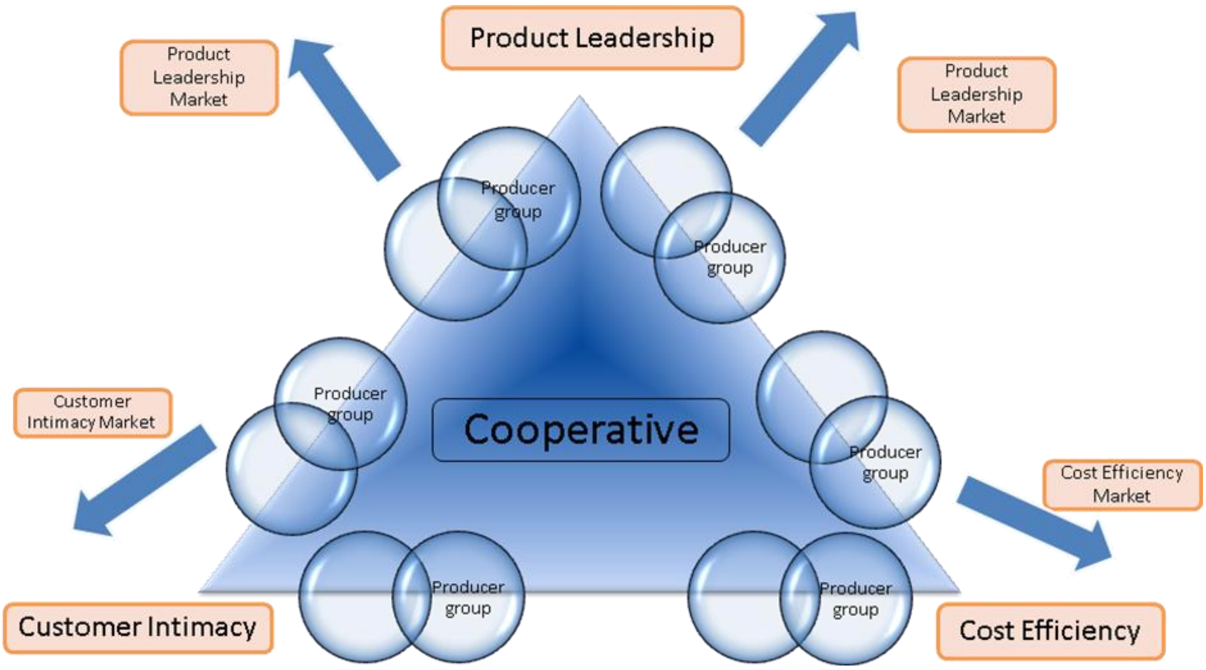
What each of these market leaders has is an inbuilt DNA and a culture weighted towards one of those three spectrums on the triangle. If a business never defines its true strength and chases the wrong strategy it will never be a market leader. It ends up in the middle of the triangle; the black hole of irrelevance, suffering from the curse of being ordinary. Important to point out is that a company can be positioned part way along the side of the triangle and still be very successful. But they can never carry all three points of difference or they fall into the black hole.

What the diagram also shows us is that consumers fall into those three categories. We have the consumers who are very price sensitive i.e. cost efficiency. Then we have the customer intimacy consumers who are very experience-sensitive. Did the store have a nice atmosphere and was the food ethically produced? And lastly the trendsetters, these product leadership consumers are the ones who trade in their 8 month old cell phone so they can have the new iPhone; the extremists of this group will sleep on the sidewalk overnight to be the first in line to buy the latest Playstation II.

Not surprisingly, producers fall into these three categories as well. The difference however is unlike consumers who are spoilt for choice in how they express themselves; the vast majority of producers, regardless of their natural preference, are steered down the cost efficiency track, producing a quality commodity as efficiently and cheaply as possible. The top 10% of farmers are the ones who have cost efficiency built into their DNA. But the tragedy is, the product leadership and customer intimacy weighted producers are like a ship without a port. The commodity-centric industry, in particular the co-operative, doesn't cater for them. Sadly they are relegated to the black hole, chugging along suffering from the curse of ordinary, never defining and expressing their true potential. Of course you get occasional farmers that break out of the mould, collectively developing something niche and exciting. Most go down the track of setting up a farm shop or selling direct via a farmers market. The successful ones carry the customer intimacy DNA; the rest don't leave much of a footprint.

So here is my concept (Figure 7 below) of a co-operative with multiple value chains, aligning the three kinds of producers with the three kinds of consumers: an environment where producers are connected with the consequences of their choices to innovate and differentiate their production from commodity.

Remember the collaborative value chain with the three circles we covered in Section 2. Imagine the triangle is one of those circles, in this case a consolidated farmer-owned meat co-operative. Overlaying the co-operative is the other two circles, one being a group of say 100 producers, and the second (purposefully left blank) could be a retailer, restaurant chain, secondary processor, or importer.



Source: adapted from Hamish Gow, Michigan State University

Figure 7

These three chain partners collaboratively set up a value chain to supply a certain consumer group somewhere in the world. The difference is that the producer group, while individually shareholders in the co-operative, is also a company in its own right. The producer group and the co-operative form a joint venture, and the co-operative provides a toll gate processing and distribution service to the joint venture as part of the partnership. But the co-operative doesn't take ownership of the product, or else we fall into the trap of other co-op shareholders wanting equal pricing.

Together the joint venture can develop a consumer brand, marketing their product through the third chain partner. You might only have 20% of all producers in these producer groups. So there will still be a lot of commodity producers operating. And any producer group oversupply that can't be absorbed into the value chain channels can easily be lumped in with the commodity. There will always be producers who are very good and comfortable producing commodity.

The benefits:

1. **Raising capital -** if 100 producers collectively put up $2 million in equity ($20,000 each) and it were matched by the co-operative; $4 million is significant enough to develop a new market with a consumer brand.
2. **Leverage** - the producer group have the resources of the co-operative to leverage off, rather than having to replicate all the same systems, intellectual property and employment of similar staff.
3. **Supply management** - the joint venture would employ its own supply manager who co-ordinates producer's supply patterns smoothing out the supply seasonality. Subsequently, breeders plan their lambing or calving dates 12 months in advance and know the exact production specifications expected.
4. **Commitment and ownership** - producers are committed to this arrangement; they aren't going to play the spot market as they have personal money invested in the joint venture.
5. **No cannibalising of business** - instead of the producer group going it alone and competing in the market place with the co-operative or other New Zealand value chains, they work together. The co-operative brings provides some rigour, co-ordinating the multiple value chains so they don't compete with each other. This removes the risk of the co-operative or other producer groups trying to cannibalise each other's business.
6. **The producers benefit directly** - importantly the producer group is rewarded for producing a niche product and tailoring their production to a known market.
7. **Innovation** - while only 20% of producers might be in these kinds of value chains they are the market-focused innovators who raise the bar for the rest of the industry. The more of an environment you create that fosters innovation amongst the best producers, the faster the whole industry progresses.
8. **Value chain focused research and development (R&D)** - true innovation is about solving previously unsolved problems. As the value chain encounters these problems they need solid research to overcome them. By aligning researchers with the value chain the solutions can be discovered much faster, as chain members are making evidence based decisions, therefore accelerating the value chain's performance. I argue very strongly that R&D should be at a value chain level rather than industry level. This is far more focused and powerful than generic R&D that has no guarantee of being taken up. More on this in Section 8: 'Accelerators'.
9. **Provenance -** by having a designated supplier group it is much easier for these niche products to have full traceability and therefore tick the provenance box. The 'customer intimacy' segment of consumers loves knowing the origin of their purchase and the story behind it.
10. **Marketing** - value chain focused marketing is far superior to generic marketing. The value chain members will benefit far more from marketing their niche product than generic commodity promotions. Similar to R&D, one of the shortcomings of New Zealand's meat and wool industries is that our marketing is very general rather than focused and therefore generic. More on this also in Section 8: 'Accelerators'.
11. **Genetics** - knowing the end market means that genetics can be selected and developed to further differentiate the product from competing products.
12. **Commodity backstop** - The co-operative still has a commodity outlet, as well as joint ventures with other producer groups that can absorb surplus product and poorer cuts of

meat, from the producer group. It is always better to oversupply a commodity than a niche product.

You might be thinking***, 'isn't this what Rissington Breedline (RBL) are doing already, supplying UK's Marks and Spencer through Silver Fern Farms?'*** While the RBL model is very innovative and has many similarities, to my knowledge it isn't a joint venture. Without drilling into the finer details it is rather a more contractual business arrangement where SFF provide the processing and Marks and Spencer pay the premium direct to RBL to distribute to their producers.

The good news is, co-operatives can facilitate the development of multiple value chains. Developing a niche product can start its point of differentiation right at the beginning of the chain with producers rather than in the middle when it is first processed.

5. Counter-Seasonal Supply

What I mean by counter -seasonal supply, is Northern and Southern Hemisphere producer groups collaborating on a counter-seasonal basis. Taking turns to supply a specific customer or market in a very tight and well managed fashion. I won't spend long on this section, as we've covered the foundational aspects already. However I mention it as I believe this is very relevant to the New Zealand seasonal pasture-based industry and is where we need to head.

The concept isn't new - it has been happening for years with chilled New Zealand lamb into the UK. In a very loose fashion New Zealand lamb has been covering the hole UK producers struggle to fill. Because it has been poorly managed, there has been historically a lot of friction in the shoulder periods when supply overlaps. The obvious solution has evolved and the more innovative companies have developed co-ordinated approaches described as 'retail-led value chains'. Two New Zealand examples I've mentioned already are ANZCO and Rissington Breedline.

- ANZCO supplies chilled lamb from its designated producer group to Dalehead Foods, the secondary processor and lamb category manager for Waitrose. This operates for a six month period, over New Zealand's production season. For the other six months a 450 strong producer group of mainly Welsh sheep farmers supply Waitrose lamb, through Dalehead Foods, in their production window. (The Welsh model is a brilliant value chain to examine; so I've attached a fascinating 2 page case study courtesy of Martin Gooch at the end of this report.)

- Large New Zealand sheep genetics company Rissington Breedline has an arrangement with UK retailer M&S (Marks and Spencer); supplying lamb from its ram clients in New Zealand and also UK. Being a relatively new value chain it is still in its adolescent phase. As UK producers with Rissington genetics increase in number they will displace out-of-season New Zealand lamb, moving to a six month counter-seasonal supply arrangement. This has the added benefit for Rissington of breaking into a whole new market for their genetics and can offer ram clients a guaranteed market for the offspring.

Component optimisation - a poor reason

One of the arguments that often come up against the counter-seasonal supply arrangement is that primary processors aren't spreading their overheads over 52 weeks of the year. Instead they would be operating for a six to eight month window, and shutting down for the rest of the year would affect their ability to attract and retain labour.

Essentially this is getting back to the component efficiency versus chain efficiency principle. If you examine the extra production costs and potential production lost by supplying animals out of season for several months then compare this with the cost of closing a plant over that same period, the extra production cost would be significantly higher. It is important to point out that, for the good of the industry, it is vital that the processors stay profitable. It may well be that a counter-seasonal producer group would have to pay a little more for their processing. But if producers are earning 10% to 20% more through maximising their production in season, then it is still more profitable to go that track and give the processor a share of the extra profit to make it worth their while. It is vital that we take a whole chain view and pursue value add and chain efficiency first; then component efficiency and optimisation second.

Global sourcing

Global sourcing of seasonally produced fresh food is a trend that I observed a lot in my travels. Multinationals like Vion, Unilever, Dole, JBS, are capturing huge synergies through this strategy. Similar to the principle discussed earlier about a power vacuum, if New Zealand companies don't develop and occupy the opportunity then it is only a matter of time (dairy excluded) before New Zealand producers become serfs supplying a large foreign owned multinational. It is worth pointing out that while JBS is a huge multinational beef company, there are no significant multinational lamb companies. New Zealand has 60 to 70% of the world's cross border trade in lamb and, despite our failings, the most organised and efficient industry; we are the best positioned to pursue this strategy. Consolidation would accelerate this significantly through the industry having an external focus rather than one of internal competition.

Newly created Wool Partners International is well positioned to implement this very strategy with strong wool. By consolidating the New Zealand strong wool clip it can then bring producers from other countries into the fold in a collaborative fashion, working towards being the world's strong wool category manager. Because the world's strong wool industry is so weak it is a cherry ripe for the picking.

Buy local or buy seasonal - which has the lowest carbon footprint?

Buying local is a massive trend in western countries. Fellow Nuffield Scholar and retail expert Rob Ward (mentioned in Section 1) shared with me how growth in UK retailers' local food category had outstripped the organic category significantly in 2008. There are plenty of reasons for this rapid growth such as provenance, supporting the local farmers and freshness. But one of the biggest reasons marketed to and embraced by the ever more environmentally conscious consumer is the term **'food miles'**, or in Canada the **'100 mile diet'**. Now these terms are self explanatory and well known so we'll keep moving. Lincoln University did a well-publicised study showing that the energy used in getting a UK lamb to a British consumer compared with a New Zealand lamb was four times higher. And the same for milk; UK production required twice the energy of New Zealand production per tonne of milksolids.

When you examine most northern hemisphere animal production systems, they don't work to their seasons as much as New Zealand does. Fully housed dairy farms are common place, milking and calving 52 weeks of the year. Also many of the sheep and beef operations calve and lamb indoors much earlier than the season would allow an outdoor operation. While productive these are very high input systems, hence the results Lincoln University came up with. There were other factors at play such as scale, but the point I want to make is: **seasonal-production has a much lower carbon footprint than out-of-season production.** Scientifically, buying seasonal is a higher concept than buying local and if well constructed, supplying those consumers can be conducted in a very collaborative and mutually beneficial manner.

There is a lot of talk lately about spreading New Zealand's production of beef and lamb across 52 weeks of the year so we can supply our markets continually and reduce processing overheads. While we could do a lot better at spreading our production more evenly, this is a dangerous road to travel too far down. It would require a radical redesign of our production systems, requiring much higher inputs, including housing animals. I still argue that the far superior strategy is counter seasonal supply arrangements; and ideally category-managing those arrangements via a New Zealand owned multi-national co-operative.

6. Irresponsible Innovation

> ***The consumer has an insatiable appetite, they will take every innovation you can throw at them and still want more.***

As I travelled, one of the very simple questions I started asking myself was: **"Why the continual drive for companies and businesses to out-innovate each other?"** The capitalist world has been so hell-bent on competition and the need to innovate to survive that most of us have lost focus on how sustainable this is and does it really deliver greater profits. I always enjoy asking the simple question as it can throw up some great insights. For me that insight arrived during a night at the dogs in Ireland. I was attending the International Nuffield Conference and on this one evening approximately two hundred of us had headed for the race track. While the greyhounds pounded the track outside I was chewing the fat with one of the forty three New Zealand Nuffield Alumni attending the conference. As I attempted to explain the seeds of a concept in my mind I grabbed a serviette and for the first time drew the diagrams below.

Niche and Commodity Lamb Production Costs versus Market Prices

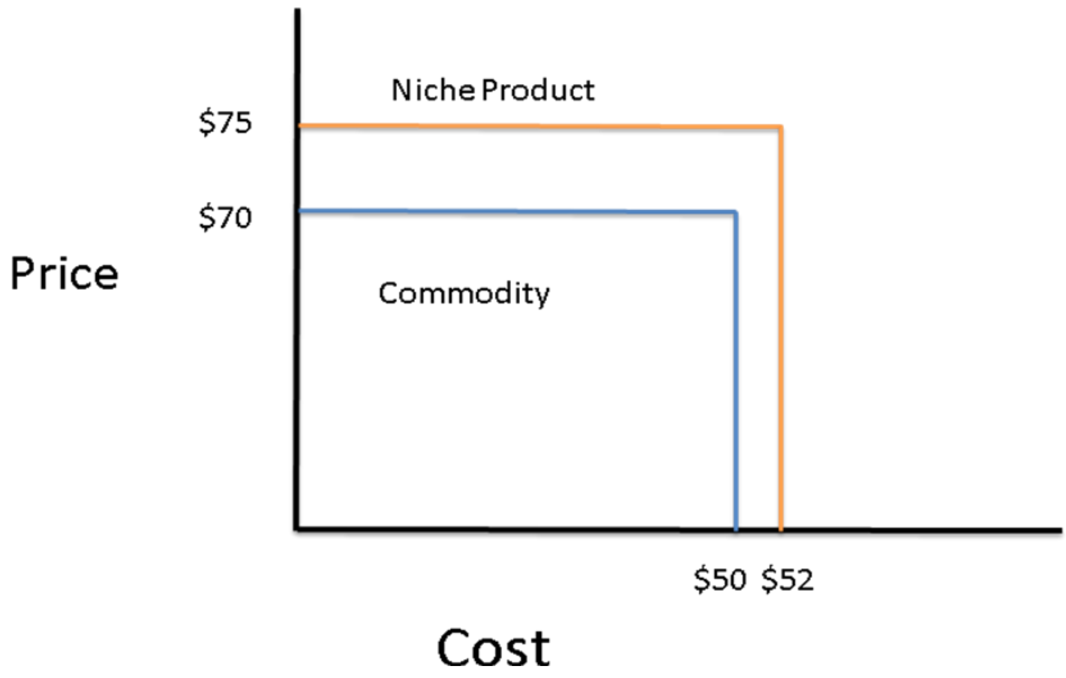


Figure 8

In **Figure 8** (above) the lower 'commodity' line shows a hypothetical average cost of production for a lamb at $50. That same lamb receives $70 when sold so there is a $20 margin to cover the farmer's overheads. Now the innovators of course never settle for average; not happy with a $20 margin they come up with some new way of differentiating their product from the basic commodity. This could be through introducing some new and more rigid quality assurance scheme, adding more value to their product. The point is that in developing a niche product, differentiating it from commodity, these new standards can incur higher production or administrative costs. The top 'niche' line attracts a $5 premium over commodity but costs $2 more to produce. So there is only an additional margin of $3 per lamb. But for producers selling 2000 to 3000 lambs a year it is still worth doing. What this innovative group of producers have done is set a new standard for the industry.

Where it gets interesting is how the commodity producers behave when they realise that there are premiums available by differentiating their production also. Generally the $75 price is more widely publicised than the cost of $52 so thinking there is a $5 premium on offer, the innovation is quickly copied. In **Figure 9** (below): the arrow from the commodity line to the niche line shows the commodity producers adopting the innovation of the niche producers, as they chase the $5 premium. But of course if everyone is now producing the same thing it is no longer niche. Instead lamb as a commodity has just developed some new standards with higher production costs. The second blue arrow pointing down tells the true story. What was a niche product has now become commoditised, and instead of a commodity-lamb costing $50 to produce it now costs $52. Instead of the original $20 margin on a commodity-lamb it has now shrunk to $18, due to higher production costs. Of course the innovators never settle for that and come up with the next niche product and the cycle repeats itself again.

Over time costs of production keep ratchetting upwards but the price of commodity stays relatively constant. To combat these increasing costs New Zealand producers have increased production to spread their costs across a greater number of animals.

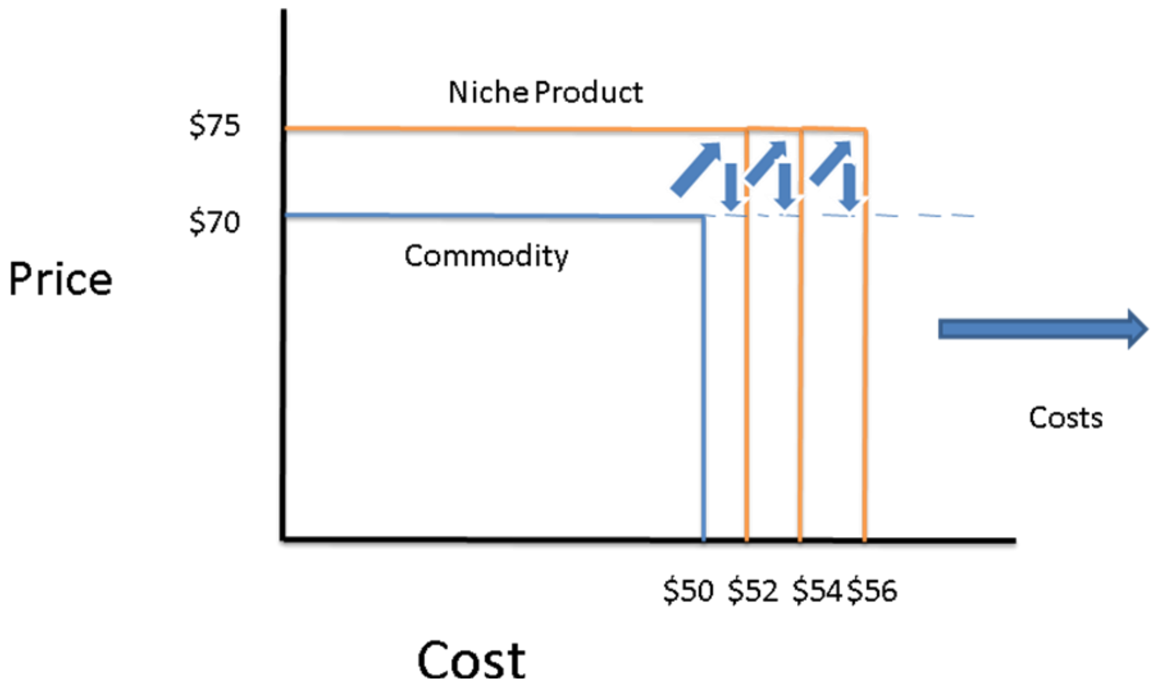


Figure 9

In **Figures 8 and 9** (above) I've used lamb and producers as the example. But this applies to beef, wool, toys, cars, service providers, everything. Coming back to meat, in many cases it is driven by meat companies trying to have a point of difference over each other, or the very competitive retail sector.

Retailers are masters at creating new standards for their products simply to get a point of difference over their competitors and gain market share. The standard pitch retailers' use on the rest of the supply chain is: ***'our customers (the consumer) are demanding this.'*** Yet in reality it's about competition, not the consumer. As I said at the start of this section, '***the consumer has an insatiable appetite, they will take every innovation you can throw at them and still want more.'*** The 'Product Leadership' companies mentioned in Section 4 think up the next new consumer craze before the consumer has ever thought of it.

Initially retailers will dangle a temporary carrot to their suppliers to differentiate their product and cover any increased costs. A portion of this will generally filter through the supply chain to the producers. But once all the other retailers have the same standards, any supplier premium has long since vanished.

I'm being a little provocative with my section title **'irresponsible innovation'** but when you look at the big picture is this a healthy treadmill to embrace? Now don't get me wrong; I'm a huge believer in innovation and developing a point of difference. The point is this:

> ***Responsible innovations are those that increase price without increasing costs, or decrease costs while maintaining the same price.***

As an industry this is where New Zealand agriculture needs to focus its fantastic ability to innovate. We need to steer away from snatching up carrots dangled by retailers or others in the supply chain searching for the next 'irresponsible' point of difference. It is hard to get off this treadmill, as the old saying tends to ring true: ***'if I don't do it someone else will'***. However meat and wool industry consolidation would help alleviate this, particularly if these farmer-owned New Zealand companies became true multinationals, using a global sourcing strategy. The result would be greater rigour and discipline around which innovations are taken up.

7. Information Systems

I started out talking about systems in Section 1 and now I want to come back to what I consider one of the greatest opportunities and threats New Zealand meat and wool industries have – building and controlling information systems spanning the supply chain.

I was fascinated by the power and opportunity around information systems well before I started out on my scholarship. Coincidentally, early in my travels another log got thrown on my 'information systems fire' through meeting an interesting guy, Laurie Bonney at the University of Tasmania; where he is conducting a PhD on value-chains. As we sat talking at a cafe looking across Hobart's harbour, Laurie scooped up a serviette to illustrate a point (another serviette moment). **Figure 10** the 'Bullwhip Effect' (below) was the diagram he sketched out.

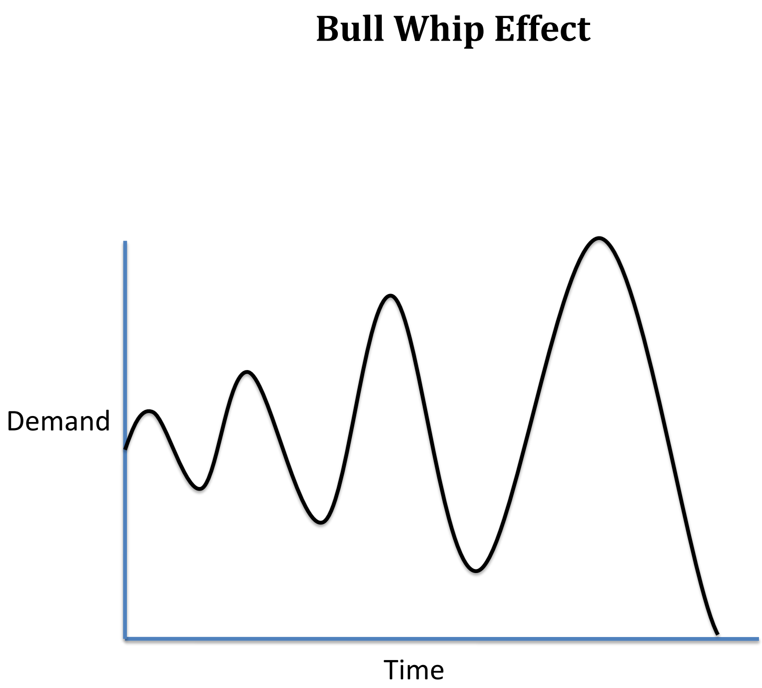


Figure 10

In our traditional commodity supply chains the Bull Whip Effect is a daily phenomenon. It creates huge inefficiencies, cost and volatility. While the concept was new to me, it first saw the light of day in J Forrester's 1961 book *Industrial Dynamics*. The reason it is named the 'Bull Whip Effect' is the diagram and the principle emulate a cracking whip. A small adjustment in demand or supply at one end of the supply chain is like someone giving a whip a flick with their wrist. What begins as a small movement at one end compounds into massive amplification at the other.

In the **Figure 10** (above), if consumer demand for a certain product increases a small amount, the retailer then orders a higher than normal volume of stock. In response their supplier the category manager scrambles to supply the increased demand and stashes extra inventory as a buffer. The processor or manufacturer then responds accordingly by ramping up production to an even greater degree, raising procurement prices to source extra product. And finally the producer radically over-reacts to the increased price signals by adjusting their production system to make the most of the new commodity boom. Of course this overreaction results in an oversupply and in a few years everything busts again. Just look at the ups and downs of dairy, beef and lamb markets over the last 10 years and you see this principle has been busily at work.

A great example of this phenomenon operating from a supply perspective, is New Zealand's 2008 venison prices. Because the venison industry had been going through a depressed period of prices, many producers reduced their herd numbers by killing breeding hinds, adding to the oversupply. Once these hinds were out of the system and no longer reproducing all of a sudden there was a shortage of supply, prices increased accordingly and so producers began rebuilding their herds by retaining extra hinds that would normally be slaughtered. This further exacerbated the supply shortage. As a result importers and wholesalers in Europe began panic buying, securing inventory for their restaurant customers. This in turn sent stronger price signals back to producers to ramp up production. When I was travelling, key industry participants I talked with had serious concerns venison would price itself off restaurant menus for a 12 month period, sending the bull whip cracking in the other direction.

The longer the supply chain the greater the magnification of the bull whip effect. Which is one of the many reasons I argue that short supply chains are far more efficient. Also the effect is far more prevalent in production-driven or forecast-driven supply chains like New Zealand's primary produce chains than demand-driven chains. So how do you overcome all this volatility up and down the supply chain, where chain partners over-react and second guess each other?

Information sharing between chain partners is seen as the foremost strategy to overcome the Bull Whip Effect. But as we discussed in Section 2, our complex commodity supply chains don't incentivise information sharing. Just leaving it up to human initiative to pick up the phone and share transparent information is not good enough. That is why the power of a system is so great. As we discussed in Section 1, a system reduces the reliance on initiative and exposure to human error. It confines behaviour to a certain set of outcomes. Therefore creating 'Information Systems', is the answer. The key is to make an information system so integral to the functionality of the supply chain that without it the chain ceases to function; that way it can't be circumnavigated. Information technology is one of the primary tools that Supply Chain Managers use. The diagram below shows an information system cutting straight through the Bull Whip Effect to counteract variation in demand and supply.

Bull Whip Effect and Information System

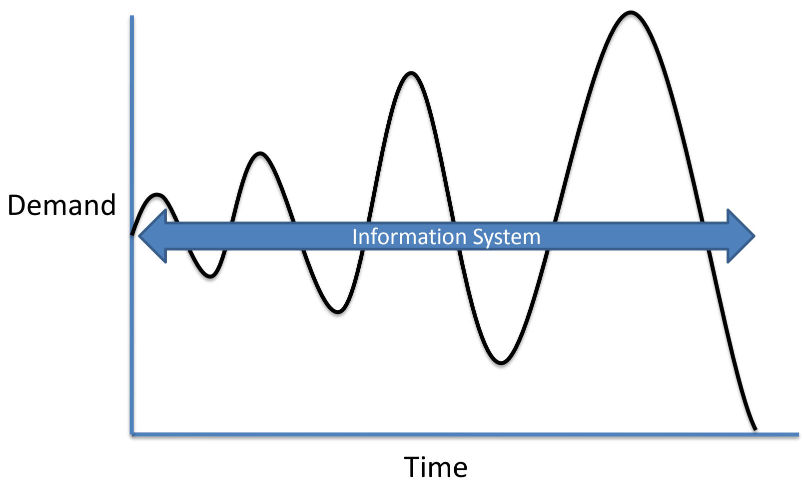


Figure 11

One can't go past Wal-Mart to see how a demand-driven supply chain has been constructed using a cutting edge information system. Just Google 'Bull Whip Effect Wikipedia' and you'll see the Wal-Mart story explained very succinctly. I've included an extract below:

> ***"Individual Wal-Mart stores transmit point of sale data from the cash register back to corporate headquarters several times a day. This demand information is used to queue shipments from the Wal-Mart distribution centre to the store and from the supplier to the Wal-Mart distribution centre. The result is near-perfect visibility of customer demand and inventory movement throughout the supply chain. Better information leads to better inventory positioning and lower costs throughout the supply chain."***

Quickly, another example of the power of information is UK retailer Tesco. It is widely accepted that one of the main reasons for Tesco's very rapid growth is the introduction of its loyalty card program, called 'Clubcard'. The retailer has leveraged this information incredibly, understanding the buying behaviour of all its individual consumers better than those consumers do themselves. For example: Tesco's Clubcard data showed that new fathers tend to buy more beer because they are home with the baby and can't go to the pub. Now, shoppers buying nappies for the first time at a Tesco store receive coupons by mail not only for baby wipes and toys, but beer. While typically only 1 or 2% of all coupons ever get redeemed in retail, Tesco has a strike rate of a 15 to 20%. In part, this is simply because the coupons are so well targeted.

At the beginning of this section I said: 'information systems are one of the greatest opportunities and threats New Zealand producers have'. Our meat and wool industries must act quickly before the window of opportunity closes. Cutting edge information systems are conspicuous by their absence in our supply chains. When you look at, computers, cars, toys, even pork and poultry to a degree, these chains are light years ahead of the sophistication and efficiency of our meat and wool supply chains. One of the key aspects that set very efficient chains apart is their use of information systems.

Information is power

You may be thinking: ***"Why should we worry about the window of opportunity closing?"*** Well here is the key point; information is power. Information systems spanning the whole chain not only create huge efficiencies, they afford huge power. Whoever controls the information system has the ability to control the chain. If New Zealand's meat and wool industries do not move quickly, in a collective fashion, the opportunity of information systems built, owned and controlled by New Zealand producer-owned co-operatives will be snatched up by some multi-national company. Like the game of chess, it is far easier to occupy a position than to wrest it off the opposition. If we sit on our hands on this issue before we know it another very large nail will be driven into the producers' coffin titled **'price-taker!'**

While in the UK I was fascinated by one of the retailers' latest trends. All the big retailers now employ **'Agricultural Managers'** who are charged with building relationships with producers. They do this through developing producer groups, similar to the Waitrose model for lamb and are pitched to producers as being the 'Collaborative Value Chain' model covered in Section 2. I would liken it more to a wolf in sheep's clothing. To lure these producers into the fold a carrot is dangled in the form of a price premium. Prices are calculated on a 'cost of production plus model', and benchmarking of individual producers' costs and production is carried out by the Agricultural Manager. A focus on costs and benchmarking is a good thing on its own, and the producers are finding ways to improve, but here is the kicker: the retailer is gathering a huge amount of information it previously never had access to. As one Agricultural Manager stated proudly to me about a producer group:

> ***"I can tell you anything you want to know about the costs of production of any one of our 300 dairy farmers."***

In his report looking at marketing structures for producers, 2005 Australian Nuffield Scholar Michael Hastings describes it this way:

> ***"Throughout the UK there is the widespread perception, even within the staff of the supermarkets, that the supermarkets and buyers have used this tool (supply chain management) to understand the costs of production between producers. Then instead of building long term relationships with them, co-operatively trying to reduce costs and improve efficiencies, they have used it as a tool to understand how far they can push farmers' prices; just keeping them in business while achieving their own marketing and profit goals i.e. cheapest prices and good shareholder profits. Farmers, due to their lack of unity and ability to work together are becoming a casualty of large successful retail businesses."***

While producers pull their pants down, displaying all their costs, there is no way the retailer joins the nudist party. Transparently showing all their costs and margins isn't how they do business. The cost-plus pricing model in my opinion is a complete trap and producers should avoid it like the plague; unless of course retailers are willing to subject themselves to a cost-plus model as well.

The primary motivation for retailers setting up these retail-led value chains is in my view more about food security, traceability and food safety. But very quickly they are waking up to the enormous power of capturing the production information. The traditional way of exerting control over a supply chain was vertical integration. The scale of investment required to achieve this has always limited any rapid expansion of the vertical integration model. But now with modern information technology, chain control can be achieved much more cheaply, simply through controlling and leveraging the flow of information. Retailers like Tesco understand the power of information. Why just settle for information about their consumers, when they can employ a similar strategy to understand their suppliers also. It will be fascinating to watch as these adolescent, retail-led value chains mature into sophisticated chains with the use of cutting edge information technology.

The question New Zealand's producers need to ask themselves is: ***'how can we pre-empt the same strategy being used on us?'*** Why not get on the front foot and take the initiative, instead of leaving a vacuum? How can New Zealand producers build and control the information systems of tomorrow? This question would be a fascinating Nuffield study topic all on its own.

One very topical debate raging in the New Zealand beef industry as I write is the National Animal Identification and Traceability system (NAIT) – compulsory tagging of cattle with RFID. I strongly argue that this must be owned and controlled by producers by way of an internationally recognised statutory body similar to the Meat Board. NAIT is one big information system. It would afford tremendous power, which is why many players including Government would dearly love to have it in their stable. NAIT has the potential to be an information super-highway with incredible leverage for New Zealand producers far beyond bio-security and food safety. It would be a crying shame if it was buried under some government bureaucracy, with all their processes and procedures. Just for the record Canada's CCIA and Australia's NLIS, (NAIT's equivalents) are both statutory bodies, governed and administered by industry representatives, with funding assistance from government.

8. Accelerators

"When the product is right you don't have to be a great marketer." Lee Iacocca

We've covered a lot of ground on a range of topics. In this section I want to come back to the value chain and discuss ways of accelerating a value chain's performance. We'll cover two topics that get a lot of air time in New Zealand's 'industry-good' discussions; Marketing and Research and Development (R&D).

Let's assume that we have built a collaborative value chain, with a strong producer group. The chain uses cutting edge information systems streamlining its efficiency and consumer focus. On top of this it produces a quality product that has some points of difference. By and large this chain has a pretty healthy structural base moving forward. The next step is to accelerate the performance of the chain.

Farmers use the term 'growth accelerator' a lot when describing the effect nitrogen fertiliser has on grass. When grass is growing well with good soil moisture and temperatures you can expect a very good response to a nitrogen application. What the nitrogen does is accelerate the grass growth. Now, if the soil is really dry or cold and the grass is barely growing, the same application of nitrogen will have virtually no effect on grass growth, as there is minimal growth to accelerate. In the same way, if a value chain is streamlined, healthy and producing the right product, plugging focused R&D and marketing into that value chain will accelerate its performance considerably.

Research and Development

R&D must be at a value chain level rather than industry level. One of the problems with New Zealand's traditional approach to R&D is it has been very generic and commodity focused. Something like a shot gun approach to solving very specific problems. New Zealand has some very sharp researchers who could be leveraged incredibly if they were spliced into value chains. As discussed in Section 4, a value chain system creates a culture and environment that is far more innovative than a commodity supply chain. These innovators are the modern day pioneers. One of the challenges of pioneering is you encounter problems that haven't been overcome before. This is where researchers can come into their own, solving a commercial problem that has a whole value chain waiting and contributing to the solution. Once solved, the commercial uptake of the R&D would be fantastic. This is far superior to the model currently where researchers take a generic approach, doing industry-good research, with no guarantee of commercial uptake.

Now don't get me wrong: I'm very in favour of R&D being conducted for the benefit of the industry. The point is that by conducting it in an innovative focused cluster of a value chain, and letting the value chain members pioneer its uptake, it is far more powerful. The value chain should rightly get first bite at the cherry as its chain members will have contributed resources and time and incubated the concept. After a couple of years' lead time where it is proved the R&D can then be made available for uptake in the wider industry. You never lift an industry's performance by focussing on the early and late majority. These producers are too risk averse to pioneer anything significant. It is the innovators and early adopters who drag the early and late majority up. These are the producers who will naturally gravitate into value chains, so empowering these industry champions will result in empowering the whole industry.

Another failing of New Zealand's R&D is how incredibly biased it is towards production. Remember 'knowledge is power'; so many market opportunities go begging simply through lack of market research. This is a hugely important void to be filled.

Just in case it appears like I'm having a good crack at New Zealand's scientific community, I'm not. Remember the system determines the culture, so I'm not making a value judgement whatsoever. Currently due to the huge lack of collaborative value chains in New Zealand agriculture, if the research fraternity wanted to align themselves with value chains they couldn't. Once we get our systems right scientists will gravitate naturally into value chains also.

Marketing - it isn't the silver bullet

A favourite catch-cry of farmers is: "***we need to spend more money on marketing!"*** While they are absolutely right and I've touched on that already. It is very important to point out that marketing alone won't solve our problems. Remember marketing is an accelerator. If you have a good chain structure, good members and a good product, marketing will pay huge dividends. Unfortunately the bulk of New Zealand's meat and wool supply chains don't tick these three boxes. With all the commodity-centric weak selling and undercutting in the marketplace, plus our long complex supply chains, we are faced with multiple leakages. Until those leakages are plugged, increasing our marketing spend will have only a fraction of its potential acceleration effect. Sure the retailers might benefit in increased consumer demand, but for reasons already discussed it will have very little flow-back to the levy-paying producers who provide the funding. It would be exactly the same as a farmer mid-winter putting on 100kg of Nitrogen per hectare in the middle of a 150mm rain storm. While a fraction of the nitrogen might survive the rain's leaching, because it is mid-winter there will be very little growth to accelerate.

As I've said earlier our generic marketing approach has to go. The challenge here of course similar to the R&D is a lack of value chains. Especially value chains that have producer owned niche brands to promote.

Trading down – a marketing strategy

While I was staying with marketing expert, 2008 UK Scholar Rob Ward, he gave me a fantastic illustration of the power of niche brands. This particular morning Rob was taking me on a guided tour of several of the local big four retailers. As we drove along in his Audi sedan, Rob shared with me how focusing a marketing budget on a high end consumer brand still benefits those less expensive branded items in the same category.

> ***"Take this Audi car I'm driving,"*** *said Rob.* ***"It is by no means the most expensive model, but rather a good quality middle range option. When consumers like me see the luxury A8 Audi being advertised, subconsciously we want to experience its uniqueness. We aspire to own that A8 but the reality is £70,000 is more than we are willing to pay. Instead what we do is 'trade-down' to a cheaper Audi model that still gives us the perception that we are experiencing the Audi point of difference. As Audi really push the image of their luxury A8 it results in sales of its other models."***

This **trading down** phenomenon happens all the time. 2007 UK Nuffield Scholar Paul Kelly's family business has built a fantastic brand of turkeys called 'Kelly Bronze'. Very strategically his father Derek Kelly tied up the genetics of bronze coloured turkeys in the early 1980's. With this unique point of difference, superior eating qualities and some very rigid production criteria they then franchised out production to turkey farmers. But they retained the intellectual property, marketing and distribution. They also refuse to sell through supermarket retailers. Kelly Bronze turkeys are now the premium product on the UK market, so much so that even royalty are amongst the ranks of loyal customers. Selling at between £80 and £100 per bird; they fetch a significant premium to the run of the mill commodity style turkey. What has happened is consumer perceptions of the old Christmas turkey have turned around due to this very premium brand. Most consumers can't afford to pay the price for the top end Kelly Bronze, so they **trade down**. The once struggling turkey industry in the UK has gone through a renaissance due to increased consumer demand: Not due to any generic marketing of turkeys but rather the entry of a very niche brand lifting consumer awareness and perception for the whole turkey category.

If you want a New Zealand example look what Icebreaker has done for merino clothing.

By investing in one or two very premium niche brands in each of New Zealand's main beef, lamb and wool markets, consumer perception and consumption will grow. The result is: most consumers will trade-down, but all New Zealand products in the category benefit. A producer led value chain is a fantastic vehicle to facilitate building such a niche brand with product point of difference to match. One other very important point to make is that by having a consolidated industry there will be more discipline. The rest of New Zealand's industry will be holding the niche brands up. This is a much better approach than the status-quo, where competing companies try to pull niche brands down, copying and then attempting to replace them with their own: i.e. 'irresponsible innovation'.

9. But how do we make it happen?

As I write this section, in January 2009, I am acutely aware that my words are very much applicable to the present day. Of all the sections in this report this one will date the fastest. In ten years time, with some interest and armed with the benefit of hindsight, I will reread these words and be reminded of the state of play in 2009's New Zealand agricultural industry.

I want to break from the mould here with a call to action. Too often people like myself take the reader on a journey through many well supported and reasoned arguments. But we fail to deal practically with the here and now. Often readers will be enlightened with new information and fresh understanding. But underlying that can be a subconscious frustration. In the case of this report, implementing the concepts, vision and proposed industry strategies will be well outside the direct control of most readers. The frustration comes from a sense of powerlessness, knowing what to do and why it should be done but not knowing how to make it happen.

It is important to understand that in order to effect change there are four necessary steps:

1. **What -** understand what needs to be done, this is the goal or objective. *(knowledge phase)*
2. **Why -** be very clear in understanding the purpose of **what** you plan to do. This is your motivation. You must understand **why** you are trying to achieve something to have strength of purpose and motivation when the going gets tough. *(understanding phase)*
3. **How -** your strategy to achieve the **what. How** do you achieve the goal or objective? *(wisdom phase)*
4. **Do -** make it happen. Instead of talking about and theorising the necessary changes **do** it. *(action phase)*

So far in this report I have answered the: **'What'** and **'Why'** questions. While I've also drilled into the **'How'** i.e. strategy required, I've jumped several steps down the road from where the industry sits right now. The biggest and most immediate roadblock to achieving the vision and strategy I have articulated is farmers acting collectively. Until there is a strong, consolidated, farmer controlled co-operative steering the collective meat industry and also for wool, any efforts to redesign the system by one entity will continue to be undermined by the others. For this reason consolidation is the very first and necessary step.

So how do we make it happen?
We'll deal with meat first and wool next.

For meat company directors and their senior management, I'll share with you some steps from a good American friend Ed Rigsbee; an international speaker, author, and one of the worlds' leading experts on building strategic alliances.

Alliance Driver Behaviours (the Art):

- Focus on getting things done rather than being right.
- Make relationship bank deposits before withdrawals.
- Use purposeful communication to overcome conflict.

www.Rigsbee.com

And if you are struggling for motivation, focus on the opportunity cost of not consolidating: Remaining a fragmented divided industry ripe for the picking. **'United we stand divided we fall'.**

For producers and other industry players who can't directly influence meat company consolidation. Ring and write letters to your company directors. Support groups who are lobbying for necessary change. Talk with your fellow farmers who may not be as well informed. Put yourself up for election to industry positions with more direct influence. But most of all don't cave into complacency; rather keep your eyes firmly fixed on the opportunity within grasp of a transformed and prosperous industry. **None of us can abdicate responsibility for transforming our meat industry. We are all part of the solution!**

For the strong wool industry in many ways the answer is simpler. New farmer-owned co-operative Wool Grower Holdings with 60% control of Wool Partners International already exists as a vehicle with a vision and strategy to consolidate New Zealand's strong wool clip. Wool Partners International has a value chain, R&D and marketing philosophy very similar to the one I have laid out in this report. Growers need to get on board this vehicle by supplying wool and taking up co-operative shares. The naysayers need to halt their destructive mud throwing and get on board also or get on with their own business.

A common human failing is to look at the past and expect the future to be the same. This is the same as driving along in a car at 100km an hour, with 90% of your focus on the rear-view mirror. The principle here is that **'whatever you focus on enlarges'.** Focusing on the past means you will keep getting the past. This rear-view mirror effect is endemic in our red meat and wool industries, with sweeping comments like: ***"that has all been tried before and it didn't work."*** As an industry we need to have 90% of our focus on the windscreen of the future, with 10% of our focus on the rear-view of the past. This way we can proactively anticipate the twists and cross roads of the future while not repeating the mistakes of history. If you hear yourself, or others say: ***"that has been tried before and didn't work."*** Challenge this destructive rear-view mirror mindset.

It is time to stop judging our future by our past. The New Zealand meat and wool industries have tremendous opportunities in the 21st century marketplace through collectively leveraging our points of difference. Let's make it happen!

About the Author

James Parsons is 32 and married to Janine. They have two sons Corin and Matthew. And together own and manage a 370ha Northland hill country farm located in the North Hokianga. The property runs 1000 high performance ewes and typically 300-400 bulls wintered on cell grazing systems.

Janine and James at their Broadwood farm with sons Corin and Matthew *(photo courtesy of NZ Farmers Weekly)*

In his early years James grew up in the Waikato, then while still a child, his family shifted north in the 80's, to take up a Lands and Survey Ballot Farm. After leaving school James spent several years as a professional shearer, shepherd, University student and traveller.

In 2001 James formed a company and purchased the farm off his father. In 2002 things got even better when he married Janine a Registered Nurse. Now settled down and farming in their own right; James' passion for agriculture started drawing him into many industry good roles. Enjoying the big picture, strategic thinking, James found these leadership roles very stimulating. Looking to develop this gift he applied for and was successfully awarded in October 2007, a 2008 Nuffield Farming Scholarship.

James's current industry involvement:

- NZ Federated Farmers Meat and Fibre Northland Chairman (Far North, Whangarei and Kaipara Districts).
- Vice Chairman, Northland Sheep and Beef Council.
- Director Kaitaia Vets, a six vet practice servicing the Far North.
- Far North Meat and Wool NZ Monitor Farm Management Committee Member.

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References

Supply Chain Management: Building partnerships and alliances in international food and agribusiness. A report for the Rural Industries Research and Development Corporation of Australia. Glen Thompson April 2001

The use of Various Producer Structures and Marketing Tools to Achieve Better Supply Chain Management and Price Stability, Michael Hastings 2005 Nuffield Scholar

Sheep Meat Report: The key elements of success and failure in the NZ sheep meat industry from 1980-2007. June 2008. Prepared by: Alan McDermott, Prof' Caroline Saunders, Eva Zellman, Tim Hope, Angie Fisher

The Locus of Value: A Hallmark of Chains that Learn; Ray Collins, Tony Dunne and Michael O'Keeffe *Supply Chain Management: An International Journal Volume 7, No.5, 2002*

'The World is Flat' -Globalization in the early 21st Century, Thomas L. Friedman

Value in Value Chains: Collaborative Business Models and farm Accreditation Systems Examined. Michael O'Keefe, Australian Farm Institute August 2008

Vion Food Group 2007 Annual Report

Competitive Advantage: Creating and Sustaining Superior Performance. Michael Porter 1985

Meat and Wool New Zealand Economic Service, Rob Davison and Con Williams

Wikipedia, the free online encyclopedia, www.wikipedia.org

Food Miles – Comparative Energy/Emissions Performance of New Zealand's Agriculture Industry Caroline Saunders, Andrew Barber, Greg Tailor. AERU Lincoln University, July 2006 www.lincoln.ac.nz/aeru

Appendix

Livestock Marketing

Decreasing Costs, Increasing Revenue through Trust, Feedback and Attention to Detail
By Martin Gooch, Director Value Chain Management Centre. www.georgemorris.org

Background
Wanting a change in lifestyle following a successful career in retailing, Philip Morgan purchased a sheep farm in Wales. As Philip's familiarity with the livestock industry grew, he realised that the production and marketing system followed by lamb producers could be greatly enhanced. Market focus was lacking and, therefore the ability to create and capture value. In an effort to assist producers in capturing greater returns from the market, a farm-assured quality system was introduced in 1992, whereby Welsh farmers could verify how their products had been produced. With his retail expertise, however, Philip viewed this as a production rather than marketing initiative. He was proved correct and asked to join the Committee overseeing the farm quality-assured program.

Four things concerned Philip about current farming practices.

- First, he was sure that farmers needed to cooperate more effectively than they currently were. While many cooperatives had been initiated, they often hadn't performed well and their members didn't work well together.
- Second, farmers and farming cooperatives didn't speak the same language as their supermarket customers and, therefore, couldn't communicate effectively.
- Third, while farmer cooperatives were good at producing livestock, they lacked the business acumen needed to take the opportunity forward and didn't adequately understand the needs of their retailer customers, particularly the multiples.
- Fourth, farmers often had good ideas but didn't share those ideas with their peers – resulting in fewer benefits than could be attained if working together to supply a particular market. This also led to inconsistency, which further reduced the value of their lamb.

Developing a Chain

With his retail experience, Philip saw an opportunity for farmers to benefit financially through working together collaboratively. Success, Philip believed, would rely on development of a well-coordinated group of likeminded producers that were dedicated to supplying lamb through an equitable, though strongly governed, network. He felt those factors could be combined to produce an environment which would encourage participants from along the chain to commit to a marketing arrangement, one that would provide them with greater financial benefits than the traditional supply model. Open and proactive communication along the chain to share production, processing and market information, along with an ability to act upon that information, would allow the chain as a whole to continually adjust according to market requirements.

Richard Sadler, who was at the time Head Buyer for Waitrose, agreed to Philip's proposal to pilot a scheme supplying farm-assured Welsh lamb during the season, which stretched from late spring through to early winter. For the remainder of the year, supply would come from a New Zealand processor that coordinates a similar group of producers. In conjunction with Waitrose and Dalehead Foods, the secondary processor involved in both supply streams, the groups work together to manage the crossover between seasons. The two groups do not compete with each other. Working together sees both groups benefit through possessing the ability to effectively and efficiently supply Waitrose with consistently high quality lamb 52 weeks a year.

As both schemes have matured in number and sophistication, producers from the Livestock Marketing and New Zealand groups regularly visit each other to share insights into innovative production and marketing methods. This leads to a strong team approach, and the open sharing of information – from which everyone benefits through finding new ways to reduce costs and/or increase revenue.

In planning his initiative, Philip stuck to a firm belief that keeping the chain as short as possible would increase the chance of success. He led what became a tri-part approach involving the producers, a secondary processor (Dalehead Foods), and the retailer (Waitrose). Facilitated by Livestock Marketing, the system cut out the need for any agent or middlemen activities, including auctions. While primary processing remains a contract kill service, Randall Parker Foods (RPF), has become an integral member of the chain. They provide producers with extensive information on individual lamb grades and performance. Less regularly, RPF provide a health status report that enables producers to further improve production efficiencies. The value of this information is illustrated by the fact that the number of lambs hitting the 'sweet spot', for which producers receive higher premiums, has continued to increase over the 14 years the scheme has existed. While all UK retailers have similar lamb specifications, the industry average for lambs meeting these specifications is 56 per cent, while producers within the Livestock Marketing scheme can average a 93 per cent 'hit rate'.

The next stage of development involved identifying innovative like-minded producers. Philip organized a meeting attended by 30 interested producers. 24 producers expressed an interest in working with Philip, of which 20 remain part of the Livestock Marketing scheme. John Price, one of those original 20 producers, says that while most producers did not expect Philip's idea to get off the ground because it was so different to their traditional approach, it has become a "brilliant business".

Ahead of each season Livestock Marketing and Dalehead meet with Waitrose to produce a schedule for the coming season, based on historical and expected demand. Livestock Marketing then identifies the lambs that each producer expects to have available each week and gains a commitment from each for a certain number. Once the season is underway, supply and demand is monitored on a rolling basis, as is producers' actual supply compared to commitment. Variations between expected demand and available supply are factored into Waitrose's promotional plans. Dalehead monitors the same to maintain the carcass balance, including satisfying both retail and foodservice demand. At the end of the season each farmer receives an extensive report of how their lambs performed, in terms of overall supply versus target quality and financial breakdown, against the group average. Through this method, the individual tracking of lambs provides farmers with the ability to make informed management decisions across their entire enterprise.

Livestock Marketing continues to flourish. The initiative has expanded greatly and over 450 producers now supply Waitrose with Welsh, British and organic lamb. There are no membership fees or legally binding contracts. Integrity, open communication, loyalty and strong governance at all levels of the chain have resulted in a level of trust that underpins the success of the initiative. Farmers in the group have access to privileged information on sales and marketing that a retailer would historically not have provided. Conversely, information from within the group is used to foster continued consumer interest in their lamb.

Waitrose's commitment to the scheme, borne from producers' own commitment to quality and consistency, was proven by their continuation to pay prices well above the norm when the open market for lamb collapsed due to the BSE crisis of 1996 and, more recently, the Foot and Mouth outbreaks of 2001 and 2007.

Benefits

Jon Morgan, Managing Director of Livestock Marketing, says the formula is simple and it works. Despite having 30 different types of lamb across the group, information provided to producers enables them to produce highly consistent lamb. It also allows them to improve efficiencies and increase revenue in ways that producers who are not part of such a scheme could not do. This combination of decreased costs and increased revenue translates into significantly improved profitability.

This revenue is essentially a reward for providing processors and Waitrose with opportunities to increase their own margins. Processors save through not having to dispose of poor quality. Consistency enables better coordination of the chain, which minimizes the need for costly inventory, reduces waste, and enables better utilization of the entire carcass. Waitrose, a 200 store retailer, benefits from the ability to guarantee consumers a constant supply of consistent quality lamb, and they manage both distribution and merchandizing with precision; consequently their market share has expanded at twice the industry average.