Delivering high quality, safe and environmentally friendly food through long term agribusiness supply chain partnerships: Case study of Waitrose Supermarket’s, Welsh and New Zealand seasonal agri-food supply chain

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Abstract

The New Zealand economy is highly dependent on the production, processing, transportation and marketing of agricultural food and fibre products. New Zealand has a highly efficient pasture based production system however this has produced constraints in delivering high value differentiated products. The success of this requires meeting international consumers demands for a consistent supply of high quality, safe and environmentally friendly food and fibre at an attractive price. This requires long term collaborative supply chain partnerships. This research seeks to understand long term agri-food supply chain partnerships through studying the Waitrose supermarket chilled lamb supply chain. This case study shows that long term partnerships based on trust are able to deliver benefits to all supply chain participants as well as the final consumer. This partnership also provides benefits to wider stakeholders through improved environmental outcomes.

Key words: Supply chain relationships, partnership, environmental sustainability, New Zealand, value creation

Introduction

New Zealand is unique among developed countries, with nearly two thirds of merchandise exports coming from the primary sector (McLeod et al. 2011). The most significant of these exports are dairy and red meat products. In 2011 the dairy sector generated US$ 9.4 billion in export earnings, representing 25 per cent of total merchandise export value and the red meat sector generated US$ 4.5 billion, representing 12 per cent (Statistics New Zealand 2012).

The New Zealand therefore economy is therefore very dependent on the performance of these two sectors. While the New Zealand dairy sector has performed well over the last 5 years, with the value of exports more than doubling, the red meat sector has performed poorly. In contrast the red meat export value has grown by only 20 per cent, which is below the average for all New Zealand exports. Farmer profitability in the red meat sector has also been disappointing, resulting in significant land use change and leading to repeated calls to improve the performance of the New Zealand red meat sector (McLeod et al. 2011; Knutson et al. 2009).

Value Creation in the Red Meat Sector

The improved performance of the red meat sector needs to be achieved through value creation. Strategic management theory explains that this can be achieved through; low cost production involving operational efficiency, product differentiation through innovation or by delivering products that meet specific customer needs of a defined market segment (Treacy and Wiersema 1997; Porter 1985). The New Zealand red meat sector has traditionally focused on a low cost and efficiency, but neglected the other two strategies. This low cost system is established on New Zealand’s efficient pasture based production systems, however in order to increase market returns the industry needs to learn how to implement product differentiation and customer focused strategies.
Therefore to increase the value of New Zealand’s red meat exports it is necessary to focus on meeting international customer’s increasing demands for high quality, safe and environmentally-friendly food. This means meeting requirements for physical product attributes, such as taste, texture, colour and safety, as well extrinsic properties, such as animal welfare, fair trade, provenance and environmental stewardship (Fischer et al. 2009; Van der Vorst 2000).

**Supply Chain Relationships in the Red Meat Sector**

Owing to the focus on production efficiency, the New Zealand meat sector has traditionally relied on short-term spot market exchange relationships. Delivering differentiated products through long term relationships and contracts is difficult as the pasture-based system is affected by climatic which requires farmers to sell stock when feed supply becomes short. These short-term relationships are efficient for large volumes of commodity products, however they are less effective in meeting consumer needs for differentiated products (Sonka 2003). Many of the extrinsic quality attributes such as animal welfare or provenance are not visible in the physical product and cannot be delivered to customers unless there are long term supply commitments. Therefore to meet these consumer demands the New Zealand red meat industry needs to move from relying predominantly on a traditional commodity model with short term, competitive, spot market relationships to a partnership model with increased supply chain commitment involving long term contracts and delivery of high quality products to meet customer demands (Fischer et al. 2009). This requires suppliers who are willing to commit to meeting higher product specifications and tighter delivery schedules.

This can be described as moving from a competitive model to a partnership model. Partnerships are relationships based on mutual trust, openness, where the responsibility, authority and decision-making are shared more evenly than in other forms of participation, and there is often an agreement between the parties to share both risks and benefits. (UK Audit Commission 2012; Lambert, Emmelhainz, and Gardner 1996). In one of a number of reports on the red meat sector, Mcleod et al (2011) identified that the sector was dominated by commodity supply chains as opposed to differentiated value chains. They indicated that to address the industry’s problems there needed to be greater trust between processors and suppliers. Incentives need to aligned so that one sector does not profit at the expense of the other.

**Reliance of Red Meat Sector on Europe**

An additional challenge for the sector is that despite significant market diversification over the last 40 years Europe remains an important market for New Zealand red meat exports, especially for sheep meat and venison (as indicated by Table 1-1).

<table>
<thead>
<tr>
<th>Product</th>
<th>Per cent Exported</th>
<th>Main market</th>
<th>Per cent to main Market 2011</th>
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<tbody>
<tr>
<td>Sheep meat</td>
<td>90 per cent</td>
<td>European Union</td>
<td>56 per cent</td>
</tr>
<tr>
<td>Beef</td>
<td>80 per cent</td>
<td>USA</td>
<td>40 per cent</td>
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New Zealand has preferential market access for lamb to the EU, with a tariff-free quota of 228,254 tonnes. The United Kingdom remains the largest single market by value, taking 20 per cent of total lamb exports. Venison is supplied into the European Union market primarily in the Northern Hemisphere autumn during the traditional game season. Germany is the largest single market, taking 40 per cent of total venison exports (Statistics New Zealand 2012). Beef is the only red meat that is not reliant on Europe. Forty per cent of New Zealand beef is exported to the United States with much of it destined for further processed into ground beef.

**History of Red Meat Exports to Europe**

New Zealand has had a long history of red meat exports to Europe, in particular to the United Kingdom. The first exports of canned product were sent in 1870 and development of refrigeration technology opened the way for frozen lamb exports. The first shipments to the United Kingdom were sent in 1882 thus beginning a long interdependent relationship with New Zealand as a supplier of cheap protein to the urban populations of Great Britain.

This relationship became even more important during times of crisis. During World War I, New Zealand farmers were encouraged to produce as much mutton and lamb as possible to export to Britain. A bulk purchasing agreement (known as ‘the commandeer’) was established with Britain. It guaranteed prices in return for New Zealand sending all of its exports of meat and dairy produce to Britain, and increasing production as much as possible (Nixon and Yeabsley. 2011). A similar agreement was implemented during World War II when the New Zealand government purchased all meat, wool and dairy production from farmers at fixed prices to be on-sold to the British Government (G.Gow 2007). Then from 1944, with its own agricultural production severely damaged, Britain again committed itself to buying New Zealand’s surplus of meat, butter and cheese. The agreements were renegotiated for seven years in 1948. However, bulk purchasing ended a year early, in 1954, as production recovered in the UK (Nixon and Yeabsley. 2011).

In 1961 Britain announced that it was planning to join the European Economic Community (EEC). This had major implications for New Zealand as the EEC had a common agricultural policy that sought to develop food security and sustain rural communities by excluding non EEC suppliers from the European market. New Zealand gained Britain’s support by highlighting New Zealand military support and supplies of agricultural products through both world wars and the impact on the British consumer if imports of lower cost New Zealand products were excluded (Nixon and Yeabsley. 2011). The British government agreed that it would not enter the EEC unless New Zealand’s ‘vital interests’ were protected. An agreement to join the EEC was reached in 1971, and included a special arrangement (the Luxembourg agreement) for New Zealand’s butter, cheese and lamb trades until Britain became a full member in 1973.

This continued from 1973 – 1977 on condition New Zealand voluntarily restricted exports. After 1977, meat exports were subject to the European Union’s Common External Tariff of 20 per cent. In 1980, New Zealand agreed to limit sheep meat exports to the European Union to 245,000 tonnes, in return for a lowering of the tariff to 10 per cent. In 1989 the

<table>
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<tr>
<th>Venison</th>
<th>90 per cent</th>
<th>European Union</th>
<th>76 per cent</th>
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(Statistics New Zealand 2012)
preferential access was reduced to 205,000 tonnes in return for a zero tariff – then under the Uruguay Round trade agreements, the preferential access was increased to 225,000 tonnes. (Nicol and Saunders 2009).

Since the mid-1980s there has been a progressive shift away from shipping whole sheep carcasses. In 1971 over 90 per cent of sheep meat was exported as whole carcasses; in 2006 just 3.9 per cent was. The export of lamb as cuts has increased from less than 10 per cent in 1971 to 81.5 per cent in 2006. (Nicol and Saunders 2009). The volume of chilled exports has grown significantly since the commercial release of “Captech” packaging in 1988, this uses carbon dioxide to extend the life of chilled red meat, and chilled product now represents 40 per cent of exports to Europe.

The increase in chilled meat exports from New Zealand has meant that New Zealand chilled lamb now competes more directly with fresh product from farmers in Wales, France, Ireland and England. This has meant retailers in the UK have had to justify its sales of New Zealand lamb to their local suppliers and consumers who often believe long distance transportation of food is detrimental to the environment and local communities.

**Rationale for Research**

Sheep meat is New Zealand’s largest red meat export product representing 54 per cent of exports by value. The United Kingdom is the largest and oldest market for these exports. Therefore if the New Zealand red meat industry is going to improve its performance learning how to differentiate products and better meet customer requirements the lamb exports to the United Kingdom will need to be an essential part of the strategy. Understanding how to create value in this supply chain will provide direct benefits to the New Zealand industry but also provide models that can be used in other markets and with other red meat products.
United Kingdom Supply Chain.

Ninety per cent of sheep meat in the United Kingdom is sold through retail and of this 70 per cent is sold through supermarkets. This makes the supermarket sales the most important outlet for New Zealand lamb. The United Kingdom supermarket sector is dominated by four large chains Tesco, ASDA, Sainsbury, and Morrison’s, which together account for 72 per cent of total grocery sales.

Figure 1. New Zealand Meat Exports. Source: (Statistics New Zealand 2012)

Figure 2. United Kingdom Retail Market. Source: (Nielsen Homescan 2012)
The short term relationships in the supply chain are also affected due to the buying strategy of the large supermarkets. They adopt a multi-sourcing strategy and use competition between different New Zealand suppliers, as well as, UK suppliers to drive down prices. Unique among these have been Waitrose, who have for more than ten years, had a single supplier strategy for both their UK and New Zealand lamb supplies. If New Zealand is to improve its returns from the UK market it needs to understand how this unique supply chain creates value for the whole supply chain from consumers to the farmer suppliers.

**Problem Statement**

How can the New Zealand Red Meat Industry increase value creation in overseas markets through long term cooperative supply chain partnerships.

**Research Questions**

1. How and why do agribusiness supply chain participants establish and maintain committed and cooperative supply chain relationships?

2. How do these committed and cooperative supply chain relationships enable value creation for all participants in the supply chain?

**Research project**

The research project focused on the New Zealand – United Kingdom lamb supply chain. In particular the investigation looked at the supply chain of the NZ meat exporter ANZCO Foods and their relationships with Dalehead Foods and Waitrose supermarket in the United Kingdom. This supply chain was chosen due to the long term relationships and partnership model that exists between suppliers, processors and retailer.

**Research Aims**

1. Identify the ways that supply chain participants can increase the value of their products through collaborative supply chain partnerships.

2. Identify how supply chain participants can increase commitment and collaboration in their supply chain relationships.

**Methodology**

The research used the case study approach. The case study involved semi structured interviews with key informants as well as documentary resources. Where possible triangulation was used between informants to improve the reliability of the data. This involved an initial exploratory study using semi structured interviews with ANZCO Foods and its New Zealand suppliers and their wholesaler/retailer partners in the UK market to develop an understanding of the supply chains and the key factors in the supply chain relationships. A number of informal interviews were held with Welsh suppliers.
**Waitrose Lamb Supply Chain**

Waitrose is an upmarket retailer and is a division of the United Kingdom’s largest employee owned company, John Lewis partnership. Waitrose has over 280 branches located across the UK but concentrated in the south east and greater London area. The preference is to source British products when they are in season and achieve a year round supply of Britain chicken, beef and pork. For lamb they have a “best in season” policy to ensure a year round supply of high quality lamb naturally reared on pasture. Welsh lamb is supplied for six months of the year (July – December) and New Zealand lamb is supplied for the remaining six months from January – June (Waitrose 2012).

Both the New Zealand and Welsh lamb is produced by a dedicated group of suppliers who are part of producer groups. Waitrose was the first UK retailer to establish producer groups and they now have more than 30 of these supplier groups. Waitrose are committed to developing strong relationships with these groups based on trust and fairness. They run workshops for farmers and encourage their supplier to visit the stores to meet customers and see how their products are sold. They encourage the farmers to protect the environment, have high standards of animal welfare and provide the best possible conditions for its workers. In return Waitrose provide an assured market with premium prices for their products.

The partnership model extends through the entire supply chain. Welsh lamb is sourced by Livestock Marketing Ltd a company set up Phillip Morgan specifically to source Welsh lamb for Waitrose. From there it is slaughtered at the Randall Parker Foods abattoir in Wales. The lamb is then processed and packed by Dalehead Foods with whom Waitrose have had a partnership for over 30 years. Dalehead Foods is an exclusive supplier to Waitrose and are division of Tulip Foods (Danish Crown Group). Dalehead Foods operate five sites in the UK, supplying Waitrose with fresh pork, bacon, sausage, cooked meats, lamb and added value products.
Dalehead Foods are also a key partner in the New Zealand lamb supply chain completing the final retail packing for ANZCO Foods. The New Zealand lamb producer group is managed by ANZCO Foods. Many of the ANZCO suppliers have been part of the Waitrose producer group for over 10 years.

ANZCO Foods process their lambs through their subsidiary Canterbury Meat Packers and they are exported as chilled primal cuts. Product is imported through ANZCO Foods United Kingdom and the containers are shipped directly to Dalehead Foods in Suffolk. Dalehead Foods do the final processing and packing for retail and deliver to Waitrose stores. Dalehead Foods process on a contract basis for Waitrose for an agreed price.

_**Successful Supply Chain**_

The success of the supply chain partnership can be seen by the growth in market share of Waitrose. Though Waitrose represents a small proportion of overall grocery sales in the UK they represent a significant proportion of red meat sales and an even greater proportion of sales of lamb. Waitrose has only a 4 per cent market share but has nearly 10 per cent market share of red meat sales and nearly 15 per cent of lamb sales (Sinclair 2013). Despite the recession, 2011 was a record-breaking period for Waitrose, posting its highest ever share of 4.7 per cent (Grocery News 2012). United Kingdom customers have become increasingly promiscuous shoppers purchasing groceries from several supermarkets. There has been rapid growth in the discount stores such as Aldi and ASDA, at the same time the market share of Waitrose has also been increasing. With incomes stretched by recession consumers are purchasing less restaurant meals and entertaining at home. They purchase basic groceries and everyday meal items from discount grocery stores but buy food and fresh meat for special meals at the weekend or for entertaining from the likes of Waitrose.
The Waitrose brand has a high level of trust with consumers and have benefited significantly from consumers concerns over the safety and quality of their food. For example when Avian Influenza came 3-4 years ago sales of chicken went down everywhere except for Waitrose where it went up (Milne 2013). Consumers clearly benefit from the quality and safety of the Waitrose offering and are prepared to pay more for the quality they provide. The supply chain partnership model means that the other participants in the supply chain benefit. Waitrose discuss costs, prices and margins with Dalehead Foods and ANZCO and ensure that there is a margin for each player. Farmer suppliers are also paid a premium over the spot market price. As Heath Milne ANZCO European manager explained “We have all got an incentive to work to make Waitrose very successful”.

**Benefits to the Environment**

As well as providing a high quality product the Waitrose “best in season” policy also minimises the impact on the environment. The lower feed conversion rate of ruminant animals such a sheep, mean that when fed on feed supplements their emissions per kilogram are higher than monogastric animals such as pigs and poultry. However, ruminant production extensive grazing systems on land unsuitable for crop cultivation helps reduce emissions (Garnett 2009). The extensive pasture based lamb production systems in New Zealand have been shown to have lower carbon emission even when long distance sea transport¹ is taken into account (Saunders and Barber 2008). The consumer also benefits from imports of New Zealand lamb through lower prices for lamb and a consisten year round supply.

![Carbon Footprint of NZ Lamb](image)

**Figure 4. Contribution to the Carbon Footprint of New Zealand Lamb** (Ledgard 2010)

¹ The same amount of fuel can transport 5 kg of food only 1 km by car, 43 km by air, 740 km by truck, 2,400 km by rail, and 3,800 km by ship. (Brodt, 2007)
Supply Chain Relationships

The key to the success of this supply chain is the relationships between staff in the different organisations:

The long term relationships and regular interaction between suppliers, processors and Waitrose has enabled this trust to develop.

Implications

There are several main implications provided by this case study. Firstly, it is important to focus not only on customer requirements for physical product characteristics such as taste, texture and visual appearance but also delivering less tangible product characteristics such as provenance, safety and sustainability. Secondly consistently delivering this to consumers requires development of long term committed supply chain relationships. To achieve this trust needs to be built through regular interaction and all supply chain participants sharing in the benefits. Finally buying local does not mean safer or more environmentally sustainable food systems. Sourcing produce from in season from the most efficient and environmentally sustainable productions systems can benefit consumers in terms of price, availability and environmental sustainability.

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