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Case study analysis on supplier commitment to added value agri-food supply chains in New Zealand

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Abstract

This research identifies what attracts suppliers to be committed to long-term relationships in New Zealand agri-food supply chains where suppliers are required to consistently deliver to high product specifications. It also looks at what factors determine supplier's ongoing commitment and how to build strong enduring supply chain relationships. Semi structured interviews were undertaken with suppliers from New Zealand agri-food exporting companies. The main factors that attracted suppliers to these supply chains were; increased price certainty, premium prices and relationship quality. Many suppliers wanted to break away from the agricultural commodity cycle, which they saw as disconnected from customer demand, and characterised by price volatility. They saw themselves as better than average producers with the ability to produce high quality products. They valued the relationship with the companies they supplied as this gave them access to premium markets where they felt they would be rewarded for their effort. There was a high level of trust in these relationships and this was built on openness and transparency in communications and confidence in the character of the company personnel. The success of differentiated agri-food supply chains requires capable and committed suppliers. Companies that are developing a differentiated strategy need to identify suppliers who have the ability to produce high quality products and want to be involved in a customer focused supply chain enables them to access to premium markets.

Jel Codes: Q13

Keywords: Supplier relationships; Commitment; Trust; New Zealand; Competitive advantage; Resource based view; Social capital

Background

The New Zealand economy is highly dependent on agri-food exports and is unique among the world's developed economies in that nearly two thirds of exports come from the agricultural sector. For example, Denmark and the Netherlands are the nearest comparable developed economies with significant agri-food export sectors, yet their agri-food exports represent only around 20% of these countries' total exports. The most significant of New Zealand's agri-food exports are dairy and red meat products. The dairy sector generated US$ 10.7 billion in export earnings in 2013, representing 28 per cent of total merchandise export value; while the red meat sector generated US $ 4.2 billion in export earnings (Statistics New Zealand 2013). New Zealand's efficient pasture based production system and small population provide a low cost competitive advantage in the export of high quality meat and dairy products. This dependence, however, makes New Zealand vulnerable to changes in foreign government's policies and consumer demand in the importing countries, as well as competition from other low cost agri-food exporters.

New Zealand has traditionally relied on this low cost competitive advantage (Porter 1998) and focused on improving productivity and efficiency to preserve its position as one of the world's most efficient agricultural producers. This is now becoming more difficult to maintain with rising production costs and regulatory constraints on agricultural intensification. Because of this, many people are questioning if New Zealand still has a sustainable long-term, low cost competitive advantage. The alternative to maintaining this low cost position would be focusing, instead, on increasing the value of the product (Porter 1985b). This would require a fundamental shift in the focus of New Zealand agriculture. Instead of an emphasis on efficient farm production and increasing scale, the focus would need to be on meeting the needs of selected high value consumers. These consumers are demanding greater variety and quality in the food they eat. They require a consistent year-round supply of high quality, safe food (Fischer et al. 2009; Van der Vorst 2000). They also want food that aligns with their own personal values, which includes credence attributes such as environmental sustainability, animal welfare and fair trade, as well as local and organic production.

Meeting these consumer demands is difficult within the constraints of New Zealand's pasture based agricultural production system, where production volume and product specifications are highly dependent on climate. This leads to a fundamental question. Should New Zealand agriculture continue to focus on low cost, efficient production systems? Or, should it focus instead on developing higher value products, with innovative production systems that can deliver a consistent year-round supply of high quality, safe food and also address consumers' concerns for animal welfare and environmental stewardship? This change would be a significant challenge for the relationships in the supply chain. The New Zealand agricultural sector has traditionally relied on short-term spot market exchange relationships (McLeod et al. 2011). While these are efficient for large volumes of undifferentiated products they are less effective in meeting consumer needs for differentiated products (Sonka 2003). In a spot market transaction there is little information flow. Information flow is important with differentiated products where credence quality attributes, such as animal welfare are not visible in the physical product at purchase or, even, after consumption (Nelson 1970; Dyer and Singh 1998). Therefore, to meet these consumer needs the New Zealand agricultural industry would need to move away from relying

Table 1 Proprtion of NZ products exported

Product	Per cent exported	Main market	Per cent to main market 2013
Dairy products	97 per cent	China	32 per cent
Sheep meat	90 per cent	European Union	44 per cent
Beef	80 per cent	USA	43 per cent
Venison	90 per cent	European Union	76 per cent

(Statistics New Zealand 2013).

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 to delivering of high quality products to meet customer demands (Fischer et al. 2009).

This would require suppliers who are willing to commit to meeting higher product specifications while working with less flexible delivery schedules. It would mean moving from a competitive model to a partnership model (Dwyer et al. 1987; Jae-Nam and Young-Gul 1999; Srinivasan et al. 2011). These partnerships are relationships based on mutual trust, openess, and where the responsibility, authority and decision-making are shared more evenly and there is often an agreement between the parties to share both risks and benefits. (UK Audit Commission 2012; Lambert et al. 1996). In one of a number of reports on the New Zealand red meat sector it was identified that the sector was dominated by commodity supply chains as opposed to differentiated value chains (McLeod et al. 2011). These authors indicated that to address the industry's problems there needed to be greater trust between processors and suppliers and incentives needed to aligned so that one sector did not profit at the expense of the other. There is, currently, little research on what influences farmers to commit to long-term supply chain partnerships. There is significant descriptive research on the characteristics of supply chain partnerships but little explanatory research. This research aims to address this.

New Zealand exports a high proportion of its agri-food products and, despite significant diversification, still relies on a small number of key markets.

China has recently become New Zealand's largest market for dairy products. Over the last 20 years China has moved from being the 31st largest export destination for New Zealand dairy products to the first. This market continues to grow strongly due to rising incomes and urbanisation in China. In contrast, the majority of lamb and venison is exported to the European Union (though China has recently become the largest market for sheep-meat outside of the European Union) (Table 1). Lamb benefits from being counter-seasonal to the European Union domestic supply and 40 per cent is exported by sea freight as chilled cuts. New Zealand has preferential market access for lamb to Europe, with a tariff-free quota of 228,254 tonnes. Venison is supplied into the European Union market primarily in the Northern Hemisphere autumn during the traditional game season, with Germany, the largest single market, taking 40 per cent of total venison exports (Statistics New Zealand 2013). The United States is the main market for New Zealand beef receiving forty per cent of exports with much of it destined for further processing into ground beef.

While dairy production is primarily pasture based there is increasing use of supplementary feeding and irrigation to reduce the impact of climate and to increase production. In contrast, New Zealand meat production is primarily produced on un-irrigated pastures with little use of supplements. This enables low cost, year-round outdoor grazing that produces natural, high quality meat products. It also means that production is highly seasonal with significant variation due to the climate (McLeod et al. 2011; Bensemann et al. 2011). Changes in pasture supply, driven by variations in temperature and rainfall play an important role in supply chain dynamics, affecting price, quality and timing of supply (Bensemann et al. 2011). This is compounded by seasonal and structural overcapacity in the meat processing industry, creating a highly competitive environment for procurement of supply.

Literature review and research framework

The primary objective of strategy is to create a competitive advantage (Barney and Hesterly 2010). Competitive advantage is the ability to produce greater economic value than competing firms (Porter 1985a; Barney and Hesterly 2008, 2010; Lin et al. 1981; Sonka 2003). Porter (1998) identifies three generic strategies firms can use to achieve competitive advantage. The first, a cost leadership strategy, emphasises efficiency and the production of high volumes of standardised products. This provides customers with similar products as competitors but at a lower cost. The second, described as a differentiation strategy, attempts to create products that consumers will pay more for because of attributes they value. The third strategy identifies the breadth of the targeted market segment, where firms attempt to better meet the specific customer needs for a particular market segment. This can involve either a low cost or a differentiated strategy depending of the mature of the market segment.

These generic strategies can also be applied at a supply chain level. Agri-food supply chains have traditionally used a low cost strategy with the provision of large volumes of undifferentiated products and spot market relationships (Sonka 2003). However, many agri-food supply chains are now moving to establish closer relationships with suppliers and customers so they can deliver differentiated products (Hobbs and Young 2001). As consumers demand greater quality and diversity in products and services, buyers need greater commitment from suppliers to ensure a consistent supply of the required quality (Kee-Hung et al. 2005; Fynes et al. 2005).

High levels of commitment mean that suppliers are willing to adapt to meet the required product specifications and committed suppliers will make relationship-specific investments and exert effort to satisfy the buyer (Buxton and Tait 2012). Committed suppliers will allocate the required resources (time, effort and money) to improve their supply chain performance. However, this commitment can also mean suppliers are vulnerable to opportunistic behaviour, especially where they have made relationship-specific investments (Liu 2012). Transaction cost economics identifies the risk of opportunistic behaviour as a determinant of transaction costs. Firms encounter transaction costs as they adopt governance mechanisms to address the risk of opportunistic behaviour (Williamson 1979). Trust is a more effective and lower cost governance mechanism than having formal contracts (Poppo and Zenger 2002; Dyer and Singh 1998; Liu 2012).

This is especially the case when there are complex exchanges requiring co-operation between partners (Poppo and Zenger 2002). Long-term, sustainable partnerships require a high level of collaboration between all parties in the supply chain and are characterised by high levels of trust, commitment, transparency and integrity (Kwon and Suh 2004; Srinivasan et al. 2011). These are also important factors in enabling the efficient and effective flow of information and the allocation of resources in a supply chain (Buxton and Tait 2012). These behaviours are necessary to enable companies to supply differentiated products to customers and achieve a sustainable competitive advantage.

The resource based view (RBV) states that competitive advantage comes from valuable and rare resources, and capabilities. If these are also hard to imitate and not substitutable then they can provide a long-term sustainable competitive advantage (Poppo and Zenger 1997; Barney 1991; Srinivasan et al. 2011). RBV identifies that it is the different resources these firms have that determines the differences in performance between them (Wernerfelt 1984). Examples of the resources are brand names, technical knowledge, skilled human resources, inter-firm relationships, machinery, efficient operating procedures and financial capital. The RBV regards specific assets and, in particular, human assets as being critical to a firm's performance. These provide valuable knowledge and capabilities (Poppo and Zenger 1997). The RBV proposes that companies choose greater integration and more hierarchical governance mechanisms, because with greater investment in specific assets these forms of governance are more efficient (Poppo and Zenger 1997). Originally, the RBV focused only on the resource capabilities located within the individual firm (Barney 1991; Molina and Dyer 1999). However, later developments acknowledged evidence that firms can achieve supply chain productivity gains by making relational investments. Inter-firm relationships enable the combining of resources in unique ways that provide these partnerships with greater competitive advantage. This incorporates the relational exchange perspective into the RBV (Dwyer et al. 1987). This extends the original view of the RBV framework to incorporate intangible resources that exist beyond the boundaries of individual firms (Molina and Dyer 1999).

Firms engage in relationships with other firms to obtain access to complementary resources (Nooteboom et al. 2000). A partner can offer a range of valuable resources, including technical capability, organisational capability, flexibility, reliability, knowledge, innovative capability, network position, international presence and a low risk of discontinuity (Nooteboom 1999). Oliver (1997) suggests that strategic alliances allow firms to obtain assets, competencies or capabilities that cannot be easily purchased in a competitive market for resources. These are, in particular, intangible assets such as specialised technical knowledge, expertise or reputation. Collaboration creates a unique combination of resources that, when combined, have greater value than when on their own. These combinations mean that these resources are more valuable, rare and difficult to imitate (Molina and Dyer 1999). Therefore, long-term supply chain partnerships create a competitive advantage through a number of activities. Partnerships' investment in tangible and intangible relationship-specific assets not only includes things such as specialised machinery, but also includes relational assets such as trust. A significant exchange of knowledge and joint learning can take place that is specific to the relationship. Firms are able to combine scarce resources in complementary ways that enable them to improve quality and efficiency as well as to develop new products and technologies. Through relational governance mechanisms, they are able to lower transaction costs (Molina and Dyer 1999; Dyer and Singh 1998). These create relational rents, which are profits achieved through collaboration that are not able to be produced by each individual firm in isolation.

Social capital theory has become an important perspective within social exchange and social network theory. In incorporating a relational view of social exchange theory, social capital describes the relationship-specific resources that enable the relational rents and is concerned with the nature, structure and resources embedded in a person's network of relationships (Granovetter 1973; Seibert et al. 2001; Burt 1992; Lin et al. 1981). Social capital was initially described by Jacobs (1965), who referred to the networks of community relationships developed over time that provided a basis for trust, co-operation and collective action. Social capital includes the actual and potential resources as a result of relationship networks (Nahapiet and Ghoshal 1998a). Social capital between buyers and suppliers allows them to gain access to, and leverage from, resources residing in their relationships. It reduces the likelihood of conflicts and promotes co-operative behaviour through trust, common goals and social bonds (Villena et al. 2011). Social capital is categorised as cognitive, relational or structural (Nahapiet and Ghoshal 1998b; Villena et al. 2011). Cognitive social capital involves shared visions, goals and culture or, in other words, what you have in common. Structural social capital refers to the overall pattern of connections between actors, in other words, who you have contact with and how you have contact with them (Nahapiet and Ghoshal 1998a). Relational social capital refers to personal relationships of trust, friendship, respect and reciprocity developed through a history of interactions that influences behaviour (Nahapiet and Ghoshal 1998a; Granovetter 1992). Social capital theory is closely aligned with the network view. It assumes that inter-firm relationships are embedded in a network structure (structural social capital), and this affects the behaviour and expectations of firms (Omta et al. 2001). Relational and cognitive social capital describes the characteristics of these network relationships. Many traditional studies of supply chain relationships take a limited linear view and only analyse the dyadic relationships between firms in the supply chain. This approach ignores the complex interdependencies and relationships between firms that exist in a larger supply network (Wilson 2011; Choi and Wu 2009).

This literature review was used to provide a theoretical framework for the research project and shape the interview questions. A resource-based view incorporating social capital theory was the primary lens through which the supplier relationships were viewed. From this it is proposed that suppliers seek to maximise the long-term value of their resources and capabilities. This means they seek to develop and acquire valuable and rare resources and capabilities that are difficult to copy, and this leads to a sustainable competitive advantage. These resources comprise their physical farm resources, which include the soils, topography, climate, location as well as physical structures and buildings. It also refers to their human resources, which include their farm management ability as well as the social capital resources that exist in the relationship with their buyer. Suppliers who are committed to long-term relationships seek to maximise the value of their productive resources by seeking complementary resources in their supply chain partners that can add value to their existing resources as well as create new resources and capabilities. The shared social capital resources are what provide the connections and bonds that facilitate access to these resources.

The main objective of this research is to contribute to the knowledge and understanding of supply chain relationships in the agri-food sector. This will provide a better understanding of how to create long-term committed partnerships between suppliers and buyers in order to meet the higher product specifications and delivery schedules required by international consumers. The research identifies the characteristics of long-term successful supplier/processor/retailer partnerships in New Zealand agri-food supply chains as well as the characteristics of the participants. It identifies how these long-term partnerships create value through co-operation. The research identifies the factors that enable long-term co-operation to occur, as opposed to short-term, opportunistic behaviour and how this co-operative behaviour is maintained.

Methods

The study employed a qualitative case study approach to explore the factors that attract suppliers to be committed to long-term supply relationships in agri-food supply chains. In particular where suppliers are require to consistently deliver to high product specifications. An exploratory case study method was used in order to gain insight into the complex factors that contribute to the formation of long-term supply commitments in agri-food supply chains. Case study research can involve single or multiple cases (Yin 2003). A multiple case study approach was used as this provides advantages in identifying patterns and enables the triangulation of the results.

Semi-structured interviews were undertaken with suppliers from three New Zealand agri-food exporting companies between May 2012 and October 2013. The companies selected all had a focused-differentiation strategy (Porter 1985b) and the products exported included, beef, lamb and venison, and their key markets were in the European Union, North America, Asia and the Middle East. The suppliers were required to meet high product specifications in terms of timing of delivery, food safety, traceability, environmental sustainability, animal welfare and product quality. The suppliers interviewed were located in both the North and South Islands of New Zealand and were from the regions of Canterbury, Otago, Manawatu, Wairarapa, Hawkes Bay and Waikato.

The aim was to understand the characteristics of long term supply chain relationships and the motives of the suppliers who choose to commit to these. The interviewer had a list of questions and topics but an attempted to be led by the supplier in order to ensure the questions didn't limit the scope of the interview and that other important aspects of the supply relationship were not missed. A list of the interview script is provided in Appendix 1. The suppliers were asked what they valued in their relationships with these companies and the benefits they received. The interviews focused on factors such as price and price certainty, relationship quality, benchmarking and information sharing. They were also asked about the costs and risks from supplying these companies.

The producers were asked what they valued in their supply relationships and the benefits they had received. They were also questioned about the disadvantages of supply relationship. The study was exploratory in nature and attempts were made to ensure validity. External validity was achieved through proximity and similarity (in the selection of companies that had similar strategies but different products and markets (Campbell 1986). Internal validity was assured through the number of supplier informants selected within each group while suppliers were selected by the companies involved to provide a broad range of perspectives. They ensured that there were less satisfied suppliers included as well as more contented suppliers.

The case studies were selected to provide perspectives about different companies exporting different products to a range of different markets (Eisenhardt 1989). The criteria for a company's selection was that the company had suppliers who committed to supply on contract with specific product specifications in terms of timing of delivery, food safety, traceability, environmental sustainability, animal welfare and product quality. These suppliers need to keep farm management records and on farm management practices are audited to ensure they meet required animal health and welfare as well as environmental sustainability standards. The suppliers also need to meet specific specifications for things such as the age and weight of the animal and fat cover. The suppliers belonged to “producer groups” where they were had an ongoing supply commitment to the New Zealand exporter. In some cases they produced to requirements of particular retail customer or to specific quality specifications that met the requirements of a number of retail customers. These retail customers often visited the suppliers in New Zealand to communicate with the farmers and understand the farming and production practices in New Zealand.

The companies had to be exporting to high end wholesale or retail customers in the European Union, North America, Asia and the Middle East. The companies were selected to cover beef, lamb and venison export supply chains such that the main New Zealand meat exports were covered. Face-to-face semi-structured on-site interviews were the primary method of data collection. The interviews took between an hour to an hour and a half to complete. A total of 30 suppliers were interviewed from five different producer groups. These were complemented with secondary data such as published company information, supply agreements and newspaper reports. Other secondary data included observations at supplier field days and informal personal communication with suppliers and company personnel. Secondary data provided additional information and validation of the interview data.

Results and discussion

The suppliers from the three companies interviewed had a number of common characteristics that reflected their physical, human and social capital resources and capabilities (Figure 1). The combination of these resources enables these suppliers to develop distinctive competencies. These are unique strengths that enable these suppliers to efficiently deliver reliable supplies of high quality products that meet customer requirements (Hill and Jones 2008). These suppliers choose to commit to these high specification supply chains because it gives them access to complimentary resources, which enables them to maximise the returns on their distinctive competencies. These complimentary resources are the customer relationships, reputation, marketing skills, communication and supplier relationship skills of the companies they supplied.

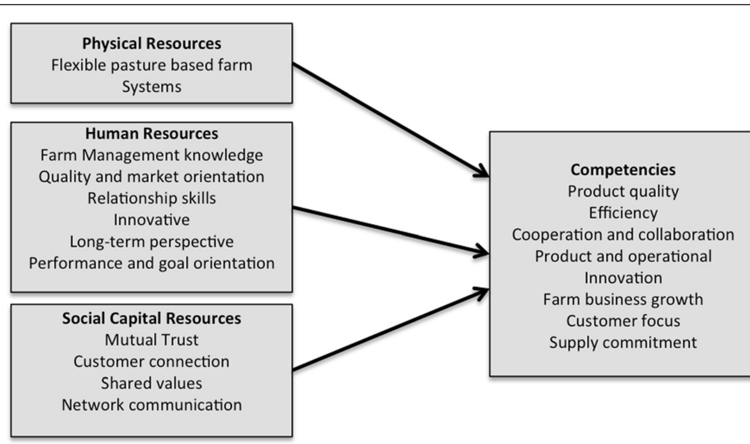

Figure 1 Model of supplier resources and competencies.

The suppliers had farm systems that they could adapt to produce consistently high quality products with more demanding delivery schedules. This involved land and climate resources that enabled a level of production flexibility, or they could achieve this through use of forage crops, irrigation or other stock to balance pasture supply and demand. This was evident when interviewing less committed suppliers as the most common issue they mentioned was the reduced flexibility in delivery timing and quality these supply chains required. This was most significant for suppliers that had farms where summer rainfall was unreliable and soils had little water storage without irrigation.

> *"We like to be quite flexible and move quite quickly but these things didn't allow us to move as quickly as we would have liked" .*

> *"We are a sheep and beef breeding business and our key performance indicator is our ewe production. Trading stock have become a big part of our system so that at any time when its dry, late winter or summer, we can just cut the trading stock" .*

> *"Commitment has a cost to it and the reason being that I can't just go and market all my cows as in-calf. Getting involved in this supply chain means we make a commitment that we won't change that policy for the long term and that has a cost. I could sometimes make more money by going to trading" .*

The human resources and capabilities were a significant factor in the characteristics of these suppliers. They were all capable producers with a high level of farm management ability. Combined with this was a high level of motivation and ability to innovate. They described themselves as progressive farmers, and had a strong desire to develop and grow their farm business. This did not always mean physical expansion but was often about positioning their business to adapt to future changes. As a result they were hungry for information and knowledge that would enable them to improve their farm performance.

> *"I'd like to see my figures against other suppliers. It's not necessarily to prove I'm the best but just for my satisfaction of seeing where we are and can we improve, and if not, if I'm not up there, then what can I do"*

> *"I think that's what we all need to do. All farmers need to stop being average; It is probably going to be a contradiction of terms. Some farmers farm because that's what they do and some farmers farm because they have to make money" .*

The desire to create and acquire new knowledge resources was a key characteristic of these suppliers. They valued collaboration and interaction with other like-minded farmers. Collaboration, which enabled the exchange of information and ideas with other capable and innovative farmers, helped them jointly create new knowledge and learning and to develop their existing resources and capabilities. Receiving a premium price for their products was also important. They felt they were "better than average" suppliers and had the capability and resources to produce a high quality product to tighter specifications and, therefore, wanted to receive a reward for this.

"The premium is good but other things are as well. It gives you a pat on the back and know you are doing a good job basically"

"It's important to me to get a premium price and knowing you are doing the right thing to get it"

"The key services for us are providing a good sort of marketing to try and promote high quality beef and sending it to an end market that can pay top dollar for the top product"

"We want to produce a top quality product and a high value with it. We want to know whoever we are moving that product onto is working on the same strategy rather than developing a product and not getting the value out of the market place" ,

"The premium price is important because we have lots of options here for farming different classes of stock and we pretty much work things back to cents per kg dry matter" .

They also had a long-term perspective and wanted to ensure their business was able to adapt to future challenges and changes in the industry. They were goal orientated and motivated by setting both short and long-term goals. The suppliers achieved a great deal of satisfaction from achieving goals and improving performance.

"This year I set a goal at the start of the season and then try to do things as well as I should to achieve that goal. It might seem like a small thing but it's satisfying"

"I definitely take a longer term view maybe the margin should be higher that you're getting but I accept that well that may not be happening now, but it should happen in the future".

"I like the results they give us, the spreadsheet, the benchmarking. I do like that it gives us something to aim for".

The suppliers had strong relationship skills, which enabled them to work cooperatively with other suppliers, and the companies they supplied. They were committed to working co-operatively with other suppliers and other parts of the supply chain. They had learned the benefits of collaboration and working together to create value.

"The thing is you're not competing against anyone; you're not competing on the open market so if you improve your performance it doesn't matter".

"So because you're in this group there's obviously an incentive to actually improve the performance of the whole group" .

"There's a strong need for this, a sense of reciprocity, where there's give and take and so I accept that I'm not getting the maximum this year but that's going to pay off in the future. So that's why a key person that's in the group has to be looking long term" .

"The whole point of this group is that it's about the good of the group as a whole"

They also had a strong focus on producing high quality products and got a great deal of satisfaction out of this. Many expressed that they were committed to producing high quality products and would do this regardless of the premium received.

> *"Focusing on quality rather than quantity; if we were focusing on quantity we would be running bulls and trade lambs all over the show. I could make more money by selling all my lambs to sale yards right now rather than having a committed contract, but we don't believe that that is the future of the industry."*

They were also customer and market focused. Knowing who the customer was gave them a sense of satisfaction and also gave them assurance that they were adapting their farm system to customer demand; this reduced their perceived risk. Customer connection provided them with personal satisfaction of knowing their efforts to produce a high quality product was appreciated and valued.

> *"If I left this relationship the customer connection would be one of the main things I would be losing or missing out on."*

> *"The attraction of this supply chain model is you have got a connection with the customer so you can actually see where the money is going and you know the money is all being recycled in the group."*

> *"We like the fact that they are not a normal old beef animal, they are going to a specific market and you are putting the trust in the people who are selling it for you. It is nice to be a little bit more connected to the market of a prime product, which gives us a sense of satisfaction in the quality of what we sell"* .

> *"That connection to the customer is really important and that gives you a sense of satisfaction of what you're producing. You know where it's going; it's the whole traceability thing. You know it's going to the top end of the market"* .

It was clear that these supply chains had significant relationship specific resources. These connections were with the companies they supply, downstream customers as well as other suppliers. These social capital resources enabled suppliers to reduce costs, increase value and reduce risk, which leads to an increase in competitive advantage. A key aspect of the cognitive social capital in the supply chain was shared goals and values. Many suppliers were attracted to these supply chains because they had a common vision with the other supply chain members. This involved producing a high quality product and delivering to customer demands. They wanted to move away from producing commodities and focus on creating more value by meeting customer expectations and being rewarded for doing that.

> *"I was attracted to this from a marketing point of view; this is the only way we are going to get out of the commodity cycle,"*

> *"We want to produce a top quality product and a high value with it. We want to know that whoever we are moving that product onto is working on the same strategy rather than developing a product and not getting the value out of the market place,"*

> *"Because they're a marketing company that actually aligns with my philosophy over the fact that we should be marketers, not salesmen"*

The other members of the supply chain brought complimentary marketing resources that enabled the suppliers to realise a better return from the resources they invested in their farm production. Relational social capital was evident in the strong mutual trust that existed in the supplier–buyer relationships as well as in the horizontal relationships with other suppliers. This was supported by structural social capital with regular interaction and honest communication.

> *"Totally, totally, I mean, I totally trust all the guys, what they're doing."*

Mutual trust and honest communication was also critical as it reduced the risk associated with opportunistic behaviour and enabled them to adapt more quickly to changing market conditions and consumer demands.

> *"Well one of the things that would damage the relationship would be if they were trying to keep things secret or not telling us. You have to have a fairly good level of trust that they are not hiding any information from you or that they are openly sharing the information that they have."*

This social capital was extended through the supply chain to the wholesale and retail customers who often visited suppliers. In some case suppliers had visited the markets and interacted with customers and consumers with in store tastings.

> *"We were attracted to the scheme because it was not only the price but we knew our meat was going to a specific market – not just disappearing. The Japanese were coming over to and having a look round some farms, which I thought, was good. They took an interest in where the meat came from and made an effort".*

Customer connection was important as this provided valuable knowledge exchange and learning. With a greater familiarity about customer needs the suppliers felt they could make strategic investments in their farm production that would create more customer value. The enduring relationships and mutual trust in the supply chain meant that long-term pricing arrangement could be established. The suppliers valued long-term stable prices as this reduced their income volatility. This also enabled improved planning and the ability to invest and focus on maximising production rather than reacting to changing commodity prices. Stable prices gave them better access to financial resources, as banks were more willing to lend if product prices were more predictable.

> *"You know what the end result is so you can work on margins"*

> *"Having a fixed price is important. You can plan, budget and work towards a good solid outlooks that's consistent. I am not saying they have to have the best price all the time but it's always a big one. As a farmer I can spend the rest of the year planning my crop, changing my rotation to target that"*

> *"What attracted me was the opportunity for a fixed price and focusing on a high value product."*

> *"When I figure out how quickly I can grow them I can go to the bank manager and say that amount of money will come in at that time of year. There is no fluctuation and that for our business going forward is going to be hugely valuable."*
> *"It allows you to focus on improving your farming performance rather than worrying about what the market price is doing".*

Relationship quality was important to the suppliers as they sought to establish relationships of mutual trust and reciprocal commitment with their supply chain partners. These aspects of social capital enabled them to mitigate the risk of adapting their production to specific customer requirements and to reduce transaction costs.

> *"I look after them and they get everything. In return he looks after me and it's a mutual relationship"*

Conclusions

The suppliers in the this research confirmed the social capital and resource-based theoretical framework whereby suppliers commit to long-term differentiated supply chains as a strategy to maximise the value of their existing resources and capabilities. They also sought to create opportunities to further develop existing resources through acquiring new resources and capabilities, or to access to complementary assets through their supply chain relationships. This confirmed the resource-based view that firms seek to create a sustainable competitive advantage by controlling valuable and rare resources and capabilities that are difficult to copy. The research also confirmed the social capital perspective as these suppliers saw value in the relational resources that included common goals, mutual trust, communication and social interaction. The suppliers benfited by having long term stable relationships and connection to high value customers. They were able to better customise their production system to meet market demands. This reduced the market risk and also gave them long term stable prices.

The suppliers sought out differentiated supply chains as they identified these as creating greater value for their existing resources. They already have high farm management capabilities as well as quality farm resources so have a greater ability to produce to higher specification products with less flexible delivery requirements. They also have existing social resources in terms of abilities to co-operate and work with others. They have a high level of absorptive capacity, and therefore, can more easily acquire and incorporate new knowledge into their farm systems. The companies they supply provided them with access to complementary resources in the form of access to premium markets where they can achieve greater returns on their resources and capabilities. The social capital resources that existed in the supply chain relationships enabled them to reduce the transaction costs due to their investment in relationship-specific assets.

The case studies showed that it is possible for New Zealand to develop higher value differentiated supply chains with committed long-term relationships. This however, requires a specific set of resources and capabilities that are by definition, rare and difficult to copy. This will only ever be a strategy for a part of the New Zealand agri-food industry. New Zealand needs to develop a diversity of strategies for suppliers and exporters. Individual producers and exporters will choose to supply different types of supply chains within a continuum between spot markets and vertical integration. This will be based on their perception of the way they can maximise the value of their existing resources and capabilities. For example, suppliers with a lower ability to produce or manage consistent quality may maximise their returns by having flexibility in their market arrangements and quality specifications. However, the current industry model is still dominated by commodity supply chains. There is, therefore, a need to specifically support the companies and their suppliers as they were developing these higher value strategies.

The success of differentiated agri-food supply chains requires capable and committed suppliers. This requires significant investment in developing relationships and careful selection of suppliers. Companies developing a differentiated strategy need to identify suppliers who have the ability to produce high quality products and want to be involved in a customer-focused supply chain that provides them with access to premium markets. Companies can build commitment and trust with suppliers through open and transparent communication. They also need to invest in marketing and customer relationships to provide suppliers with access to premium markets so they can be rewarded for the quality of the products they produce.

Although these committed, differentiated supply arrangements will not suit all suppliers, improving the overall resources and capabilities of producers will mean a greater proportion will choose these supply chains as their optimum strategy. This has important implications for policy makers, researchers and for extension services. Private companies, government agencies and industry organisations can support programmes that improve farmer management capability as this will improve the performance of these supply chains as well provide a greater pool of suppliers capable of delivering to these more demanding specifications. New Zealand farm management research has traditionally focused on maximising farm efficiency and reducing costs rather than improving the quality of the product to meet specific customer requirements. More investment needs to be made into research that efficiently adds value rather than on lowering costs.

Farmers need to have both the capability and the motivation to be involved in these supply chains. Many farmers have little awareness of customer demands or opportunities in the market; therefore, promoting knowledge and awareness of market needs and supply chain opportunities is important for providing the understanding and motivation to meet customer needs. Providing resources to improve the physical resources of farms through such things as investment in irrigation systems, improved pasture species and developing enhanced soil quality can improve capability. Providing investment in research and development, and developing farmer knowledge that is specifically targeted at delivering to the specifications of these supply chains, will enable more farmers to have the capability to commit to supplying these customers.

Appendix 1

Interview questions

1. What attracted you to first join the producer group?
2. Why do you think other producers don't join the producer group?

3. What do you think would get more suppliers to join the producer group?
4. What do you value most from being a part of producer group?
5. What do you see as the main benefits of belonging to producer group?
6. How satisfied are you with the performance of your producer group processor/marketer?
7. What do you see as the risks of the being part of the producer group?
8. What do you see as the main costs/disadvantages of belonging to producer group?
9. What do you see as the key services provided by the producer group and how well are these services being delivered today?
10. What would you value that producer group processor/marketer is not currently providing?

Competing interests
The authors declare that they have no competing interests.

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References
Audit Commission UK (2012) Working better together. Audit Commission, London
Barney J (1991) Firm resources and sustained competitive advantage. J Manag 17(1):99–120, doi:10.1177/014920639101700108
Barney JB, Hesterly WS (2008) Strategic management and competitive advantage: concepts. Pearson/Prentice Hall, Upper Saddle River, N.J.
Barney JB, Hesterly WS (2010) Strategic management and competitive advantage: concepts and cases. Prentice Hall, Upper Saddle River, N.J.
Bensemann J, Shadbolt N, Conforte D (2011) Farmers' choice of marketing strategies A study of New Zealand lamb producers. Paper presented at the International Food and Agribusiness Conference. IFAMA, Shanghai, China
Burt RS (1992) The social structure of competition. In: Structural Holes. Harvard University Press, Cambridge
Buxton A, Tait J (2012) Measuring fairness in supply chain relationships: Methodology guide. New business models for sustainable trading relationships. International Institute for Environment and Development, Oxfam
Campbell DT (1986) Relabeling internal and external validity for applied social scientists. New Dir Program Eval 1986 (31):67–77
Choi TY, Wu Z (2009) Taking the leap from dyads to triads: Buyer–supplier relationships in supply networks. J Purch Supply Manag 15(4):263–266, doi:10.1016/j.pursup.2009.08.003
Dwyer FR, Schurr PH, Oh S (1987) Developing buyer-seller relationships. J Mark 11:11–27
Dyer JH, Singh H (1998) The relational view: Cooperative strategy and sources of interorganizational competitive advantage. Acad Manag Rev 23(4):660–679
Eisenhardt KM (1989) Building theories from case study research. Acad Manag Rev 14(4):532–550
Fischer C, Hartmann M, Reynolds N, Leat P, Revoredo-Giha C, Henchion M et al (2009) Factors influencing contractual choice and sustainable relationships in European agri-food supply chains. Eur Rev Agric Econ 36(4):541–569, doi:10.1093/erae/jbp041
Fynes B, Voss C, de Búrca S (2005) The impact of supply chain relationship quality on quality performance. Int J Prod Econ 96(3):339–354
Granovetter MS (1973) The strength of weak ties. Am J Sociol 78(6):1360–1380
Granovetter M (1992) Problems of explanation in economic sociology. Netw Organizations: Struct Form Action 25:56
Hill CWL, Jones GR (2008) Strategic Management: An Integrated Approach: An Integrated Approach. Cengage Learning, Boston, MA
Hobbs JE, Young LMC (2001) Vertical linkages in agri-foods supply chains in Canada and the United States. Rev Agric Econ 24(2):428–441
Jacobs J (1965) The death and life of great American cities. Penguin, Harmondsworth
Jae-Nam L, Young-Gul K (1999) Effect of partnership quality on IS outsourcing success: conceptual framework and empirical validation. J Manag Inf Syst 15(4):29–61
Kee-Hung L, Cheng TCE, Yeung ACL (2005) Relationship stability and supplier commitment to quality. Int J Prod Econ 96(3):397–410, doi:10.1016/j.ijpe.2004.07.005
Kwon I, Suh T (2004) Factors affecting the level of trust and commitment in supply chain relationships. J Supply Chain Manag 40(2):4–14, doi:10.1111/j.1745-493X.2004.tb00165.x
Lambert DM, Emmelhainz MA, Gardner JT (1996) Developing and implementing supply chain partnerships. Int J Logist Manag 7(2):1–18
Lin N, Ensel WM, Vaughn JC (1981) Social resources and strength of ties: Structural factors in occupational status attainment. Am Sociol Rev 46(4):393–405
Liu CLE (2012) An investigation of relationship learning in cross-border buyer–supplier relationships: The role of trust. Int Bus Rev 21(3):311–327, doi:10.1016/j.ibusrev.2011.05.005

McLeod A, Mair J, Parker H, Belworthy P (2011) Red meat sector strategy report. Beef & Lamb New Zealand Limited, Auckland
Molina J, Dyer JH (1999) On the relational view: Response to relational view commentary. Acad Manag Rev 24(2):184–186
Nahapiet J, Ghoshal S (1998a) Social capital, intellectual capital, and the organizational advantage. Acad Manag Rev 23(2):242–266, doi:10.5465/amr.1998.533225
Nahapiet J, Ghoshal S (1998b) Social Capital, Intellectual Capital, and the Organizational Advantage. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship
Nelson P (1970) Information and consumer behavior. J Polit Econ 78(2):311–329
Nooteboom B (1999) Inter-firm alliances analysis and design. Routledge, London; New York
Nooteboom B, De Jong G, Vossen RW, Helper S, Sako M (2000) Network interactions and mutual dependence: a test in the car industry. Industry Innov 7(1):117–144, doi:10.1080/713670249
Oliver C (1997) Sustainable competitive advantage: combining institutional and resource-based views. Strateg Manag J 18(9):697–713, doi:10.1002/(sici)1097-0266(199710)18:9<697::aid-smj909>3.0.co;2-c
Omta SWF, Trienekens J, Beers G (2001) Chain and network science: A research framework. J Chain Netw Sci 1(1):
Poppo L, Zenger T (2002) Do formal contracts and relational governance function as substitutes or complements? Strateg Manag J 23(8):707–725
Poppo L, Zenger TR (1997) Testing alternative theories of the firm: Transaction cost, knowledge-based, and measurement explanations for make-or- buy decisions in information services. SSRN eLibrary
Porter ME (1998) Competitive strategy: Techniques for analyzing industries and competitors. Free Press, New York
Porter ME (1985a) Competitive advantage: creating and sustaining superior performance. New York; London: Free Press; Collier Macmillan
Porter ME (1985b) Competitive advantage: Creating and sustaining superior performance. New York: The Free Press: London Collier Macmillan Publishers
Seibert SE, Kraimer ML, Liden RC (2001) A social capital theory of career success. Acad Manag J 1:219–237
Sonka S (2003) Forces driving industrialization of agriculture: implications for the grain industry in the United States. In: Presentation at USDA/ERS Symposium on Product Differentiation and Market Segmentation in Grains and Oilseeds: Implications for an Industry in Transition. pp 27–28
Srinivasan M, Mukherjee D, Gaur AS (2003) Buyer–supplier partnership quality and supply chain performance: Moderating role of risks, and environmental uncertainty. Eur Manag J In Press. Corrected Proof. doi:10.1016/j.emj.2011.02.004
Statistics New Zealand (2013) Global New Zealand – International trade, investment, and travel profile: Year ended December 2013. http://www.stats.govt.nz
Van der Vorst JGAJ (2000) Effective food supply chains; generating, modelling and evaluating supply chain scenarios. PhD. Wageningen University, Wageningen, Netherlands
Villena VH, Revilla E, Choi TY (2011) The dark side of buyer–supplier relationships: A social capital perspective. J Oper Manag 29(6):561–576
Wernerfelt B (1984) A resource-based view of the firm. Strateg Manag J 5(2):171–180, doi:10.1002/smj.4250050207
Williamson O (1979) Transaction-cost economics: The governance of contractual relations. J Law Econ 22(2):233–261
Wilson M (2011) A complex network approach to supply chain network theory. University, Lincoln
Yin RK (2003) Case Study Research Design and Methods. Applied Social Research Methods Series, vol 5, 3rd edn. Sage, Thousand Oaks, California