The roles of trust and commitment in the Australian Lamb Retailers/Wholesalers

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Abstract. The red meat sector is vital to Australian agriculture. It is a large contributor to the value of agricultural production and exports and also accounts for a significant proportion of rural and regional employment. Developments in the red meat sector also affect other industries, both upstream and downstream.

A supply chain management survey of the Australian lamb industry was conducted by distributing a mail questionnaire to lamb retailers and wholesalers. The objective was to establish a model explaining the supply chain performance indicator responsiveness of lamb retailers/wholesalers in terms of the trust and commitment. Multiple regression analysis was performed. Australian lamb retailers' antecedent cooperative behaviours (independent variables) were regressed on supply chain performance indicator responsiveness (dependent variable).

The result of this research confirmed that trust and commitment are positively correlated with lamb retailers' responsiveness. Trust and commitment are a crucial part of any long-term relationships or alliance in agribusiness firms.

Keywords: trust, commitment, lamb, supply chain management.

Introduction

Australia is among the world's largest producers of lamb, with 412,536 tonnes (carcass weight) produced in 2009-10, with a gross value of sheepmeat of around $2.9 billion. In 2009-10, around 45% of lamb produced in Australia was exported.

Australia is also a large exporter of live animals, particularly out of northern and western Australia. The value of total sheepmeat exports in 2009-10 was $932 million. The distribution of sheep within Australia provides a strong indication of the regional importance of the industry. The majority of Australia's 76.9 million sheep (as at June 2008) are located in New South Wales (34%), Western Australia (23%) and Victoria (22%).

Australia is second only to New Zealand as an exporter of sheepmeat. Although New Zealand has remained dominant, the proportion of world exports coming from Australia increased from 25% to 31% over the 10 years to 2006.

Consumption of lamb has also fallen over the same period from 15 kilograms to 10 kilograms a person. For lamb, less than 15% was exported in 1988-89, but by 2007-08 this had increased to 45%. This greater dependence on export markets means the Australian red meat industry is increasingly influenced by global factors.

The lamb sector in Australia is undergoing rapid change because of various changes that have led to improved meat quality. In this type of business environment, advanced supply chain systems have been observed to have dramatic impact (Finch 2006). Hence the research reported focused on analysing antecedent cooperative behaviour and measuring supply chain performance indicators of Australian lamb retailers/wholesalers.

The next section of the paper considers the relevant structure of the wholesaling and retailing sectors of the lamb supply chain. Some key components of the literature are then reviewed, and this leads to the development of a conceptual framework. The conceptual framework suggested various methods, and a model was then constructed to illuminate the most important aspects of the supply chain. Based on the modelling work, suggested improvements for the industry are presented and analysed.

Combining knowledge of the rapid changes taking place in the lamb industry with the supply chain management literature (de Ruyter et al. 2001; Morgan and Hunt 1994) led to the following question that the quantitative analysis sheds light on:

How do trust and commitment in trading partners affect supply chain practice and supply chain performance of Australian lamb producers?

Structure of Australian Lamb Retailers/Wholesalers

The domestic market is an important sector for the Australian lamb industry. The domestic processed lamb market utilised 34% of lamb (or 719,000 tonnes) in 2005. Of this around 68% by weight (or 488,920 tonnes) is sold through the supermarket and retail butcher outlets. Around 27% of lamb (or 194,130 tonnes) used domestically is sold through food services. The remaining 5% (or 35,950 tonnes) is marketed to the processing

sector to be further transformed into other food products.

Supermarket and retail butcher outlets

The average number of weekly serves of lamb purchased at supermarkets and retail butcher outlets in 2005/06 was 25.6 million. Red meat had a 55% share of total fresh meat purchases at supermarkets and retail butcher outlets.

Woolworths is the largest lamb retailer in Australia (around 32% share of lamb purchased in 2005). Then, this is followed by retail butcher outlets (around 28%); Coles (around 19%); other supermarkets such as IGA, BILO and Franklins (around 17.5%); and other markets/deli (around 3.5%). Australia had more than 3,800 retail butcher outlets in 2007.

Coles, Woolworths and IGA supermarkets are described in the next section.

Woolworths Group Limited

The first store (the Woolworths Stupendous Bargain Basement, Sydney) was established in December 1924. Between 1930s and 1940s, Woolworths established 31 stores in Australia and 9 in New Zealand. Then during the 1960s and 1970s Woolworths pioneered the supply of a wide range of low price, quality merchandise to rural Australia - especially to remote areas such as Alice Springs and Darwin. During the 1980s, Woolworths became established as the "Fresh Food People" - with a commitment to deliver quality fresh food to their customers. In 1985, Woolworths acquired Australian Safeway. Woolworths had now become the market leader in grocery sales, serving up to 10 million customers per week. In just two years, profit rose from $8 million to $136 million. In 1993, the $2,450 million Woolworths' share float was the biggest in Australia's history. The 1,000 million shares on offer were quickly snapped up by more than 33,000 investors, many of them everyday Australians - including 19,000 Woolworths' employees (Woolworths 2012).

Now, the Woolworths Group operates over 3,000 stores throughout Australia and New Zealand. It has more than 180,000 staff, serving over 13 million customers Australia-wide, every week. There are over 750 supermarkets throughout Australia and New Zealand (Woolworths 2012).

Despite the size of Woolworths' supermarket operation, it has paid meticulous attention to its individual supply chains. This has reached the point of significant vertical contracts with lamb producers. It what has enabled Woolworths to announce recently that in NSW consumers can purchase Meat Standards Australia graded lamb. The

research project reported here examined how far trust and commitment were instrumental in enabling this type of improvement.

Coles Limited

In 1914, George Coles (founder) established the first Coles Variety store in Collingwood, Melbourne after he travelled to the US to learn best practices in retailing in the early 1900s. In 1960, the first supermarket was opened in North Balwyn, Victoria. By 1973, Coles grew rapidly by establishing a supermarket in every Australian capital city.

Coles is a part of the Coles Group Limited - Australia's largest retailing group and one of the top 25 retailers in the world. Coles Group Limited has over 2,500 retail outlets throughout Australia. There are 741 supermarkets (Wesfarmers Limited 2012). Moreover, Coles Group Limited employs more than 180,000 workers (or 92,000 employees in the supermarkets) and serves more than 4.5 million customers every week (Coles 2012).

In order to provide the best quality lamb, Coles established a group of dedicated graziers (the name is "Colestock") in 1998. More than 75% of Coles meat is supplied by Colestock producers. Currently, there are more than 1,000 Colestock graziers in Australia growing prime quality meat for Coles. They are located across South Australia, Victoria, Tasmania, New South Wales and Queensland. Like Woolworths, Coles is paying attention to how to manage its lamb supply chains to deliver consistent meat quality to its customers. Again, we examine how trust and commitment have enabled this type of development.

IGA (Independent Grocers of Australia)

In 1988, IGA was brought to Australia by Davids Holdings when 10 stores initially became members of IGA. Currently, there are over 1,000 IGA stores in Australia (over 250 stores in NSW/ACT, over 200 stores in QLD, over 350 stores in Victoria and over 200 stores in Western Australia) (IGA 2007). Based on size, range and customer profile, IGA Distribution consists of three channels. The first channel is Supa IGA. This is a large format store (full and large supermarket range). The store primarily provides all of the grocery and fresh food in one location. The second channel is IGA. This is a medium format store (mid-sized supermarket range). The last channel is IGA X-press. This is a small format store which attracts a convenience market with a concentration on high service. This only accommodates grocery products. Hence less emphasis seems to be placed overall by IGA on meat quality, but they still deliver lamb to

customers, and they can't be ignored in our survey.

Literature Review

Antecedent cooperative behaviour

Mutual trust and long-term commitment are components of successful partnerships among supply chain partners (Mirani et al. 2001). It is clear that no real collaboration can exist in supply chain relationships without meaningful trust and commitment.

Trust

There are several definitions of trust in supply chain relationships:

- Trust is a general expectancy that the word of an individual or organisation can be relied on (Rotter 1967).

- Trust is the willingness to rely on a trading partner in whom one has confidence (Morgan and Hunt 1994). Confidence in supply chain relationships requires consistency, competency, honesty, fairness, responsibility, accountability, predictability and dependability (Lamming 1996; Moorman et al. 1992).

- Trust is the degree to which partners perceive each other as credible and benevolent (Doney and Cannon 1997; Kumar et al. 1995) and is expected to have a positive effect on the degree of collaboration in supply-chain relationships.

- Trust is "the belief that a party's word or promise is reliable and that a party will fulfil his/her obligations in an exchange relationship" (Schurr and Ozanne 1985, p.12).

- Trust is "the degree to which the channel member perceives that its relationship with the supplier is based upon mutual trust and thus is willing to accept short-term dislocation because it is confident that such dislocation will balance out in the long-run" (Anderson et al. 1987, p.6).

- Trust is "one party's belief that its needs will be fulfilled in the future by actions undertaken by the other party" (Anderson & Weitz 1989, p.33).

- Trust is "the firm's belief that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm" (Anderson and Narus 1990, p.3).

Based on the definitions above, there are various ways to build trust in relationships between lamb producers and processors or processors and lamb retailers. Trading partners should demonstrate reliability in their operations, consistently performing as promised and meeting expectations. In addition, trading partners need to fully and accurately share all information for the effective functioning of relationships.

Commitment

Commitment is characterised by long-term relationships which can be defined as the willingness of each partner to exert effort on behalf of the relationship (Lee and Kim 1999; Tomkins 2000). Commitment and trust are the dimensions of a business relationship that determine the degree to which each party feels they can rely on the integrity of the promise offered by the other.

Methods

A conceptual framework

There are two elements of this conceptual framework. First, trust and commitment are the two antecedents of cooperative behaviour (de Ruyter et al. 2001; Morgan and Hunt 1994) which influence supply chain performance indicators.

The second component is the selection of an appropriate performance indicator for the lamb supply chain. A number of indicators, including responsiveness, flexibility, and efficiency, were tested to discover the process by which trust and commitment influence lamb supply chain performance. It was discovered that responsiveness had the strongest relationship linking trust and commitment to competitive advantage.

It seems appropriate to use responsiveness (Aramyan et al. 2006; Gunasekaran et al. 2004; Li et al. 2002; Li 2002) for this purpose, given that what Woolworths and Coles have achieved in recent years is agility in supplying their customers with the lamb quality that they are demanding. It is essential to measure and evaluate the supply chain performance of the Australian lamb industry, particularly because of the complexity and multiple echelons of the businesses involved.

In the process of studying the particularities of this industry, the research forged a new understanding of the major difficulties for implementation of supply chain management in the Australian lamb industry context, and highlighted the types of issues that influence supply chain performance. This investigation led to the hypothesis:

A relationship exists between a performance indicator (which turned out to be responsiveness) and at least one of the explanatory variables – trust and/or commitment.

A supply chain management survey of the Australian lamb industry was conducted by distributing a mail questionnaire to lamb

retailers and wholesalers. The survey asked participants in the industry to express their views on various aspects of the supply chain, with a focus on the antecedent cooperative behaviour discussed above. The objective was to establish a model explaining the supply chain performance indicators of lamb retailers/wholesalers in terms of the antecedent cooperative behaviour involving trust and commitment.

Results

The effective response rate to the survey was 16%. Cronbach's alpha (Cronbach 1951) was used to test internal consistency, and values of 0.60-0.87 were obtained. While 0.70 or above is desirable (Hair 2006), 0.50-0.60 is considered sufficient (Nunnally 1978). The majority of items in the survey were based on established scales that have already been subjected to tests of content validity (Aramyan et al. 2006). In addition, the pre-test confirmed that a group of industry experts viewed the scales used as acceptable.

Discriminant and convergent validity were assessed by using factor analysis (see Table 2). Again the results fell within the acceptable range. Finally, stepwise multiple regression analysis was performed. Australian lamb retailers' antecedent cooperative behaviours (independent variables) were separately regressed on the various supply chain performance indicators. These separate regression equations were compared, and the strongest and preferred relationship was selected, and is shown in equation 1, in which Resp is responsiveness, α and βs are constants, e_i is the disturbance term, and t–statistics are shown in parentheses.

$$Resp = \alpha + \beta_1 * Trust + \beta_2 * Commitment + e_i$$

$$Resp = 4.406 + 0.421 * Trust + $$
$$(2.172)$$
$$0.669 * Commitment + e_i \qquad (1)$$
$$(5.095) \qquad \text{Adjusted } R^2 : 0.512$$

Discussion

The result of this research confirmed that trust and commitment are strongly related to lamb retailers' responsiveness. They are far stronger explanatory variables than any other the alternatives considered. Given that the regression results summarise the survey data, they indicate that those supply chain participants who completed the survey regard trust and commitment as being critical to ensuring the delivery of high quality lamb to customers.

Trust and commitment are a part for any long-term relationship. In terms of alliances in the Australian lamb supply chain, there are two categories:

1. Horizontal alliances are between functions at the same level in the lamb supply chains. Horizontal alliances are suitable for smaller agribusinesses, for example among smaller lamb retailers or wholesalers.

2. Vertical alliances are between functions and several groups at different levels in the lamb value chain. For example, between lamb retailers and processors.

Several researchers thought that trust as a multidimensional term, cannot be predicted by a single item or psychological construct (Deutsch 1960; Barber 1983; Lewicki et al. 1998). Definition of trust in this research context is retailers' confidence in the other relationship member's reliability, truthfulness and stability, and the belief that their actions are in the best interest of and will have positive outcomes for the trusting party. Trust is a key success factor in the aligned Australian lamb industry, which is engendered by information sharing and openness (Peterson et al. 2000).

Two dimensions of trust which are 'competence trust' and 'goodwill trust' (Nooteboom et al. 1997, Das and Teng 2001) seem to be relevant in the context of trust between retailers and processors or final consumers. Competence trust in this research study is the expectation of the capability and know-how of the trustee to meet their promise, agreement and/or obligation (Mayer et al. 1995). Goodwill trust can be classified into three dimensions which are responsibility (Barber 1983), dependability (Rempel et al. 1985) and integrity (Mayer et al. 1995). Goodwill is defined as the expectation of the other's moral obligations and responsibility in social relationships to demonstrate a special concern for others' interests above their own (Barber 1983, Ring and Van de Ven 1992).

Many studies have confirmed the importance of trust and commitment as an essential in the formation of relationships and partnerships (Blois 1999; Das and Teng 2001; Crotts et al. 2001; Lewis 2000). Several benefits of trust exist between retailers and other relationship members:

1. Mutual trust (Bowersox et al. 2000; Chu and Fang 2006) can stimulate increased cooperation between retailers and other relationship members. In this, they may learn that cooperation or joint efforts can cause outcomes that exceed those achieved individually. For example, the retailers need to provide relevant

information about the requirements of final customers such as high quality, taste, etc. to the processors during the transaction processes. If retailers cannot provide the information to other relationship members or there is no confidence in the information provided it may create conflict, as well as an ineffective communication channel, then it can hinder the trust-building process.

2. Peppers and Rogers (2004, p.43) confirmed that "trust encourages relationship members to work to maintain the relationship and to oppose the temptation to take short-term gains and/or act opportunistically. Trust of a seller firm is positively related to the likelihood that the buyer will engage in future business, therefore contributing to increasing the duration of the relationship. "The existence of trust allows, disputes or conflicts to be resolved in an efficient and amicable way. In the absence of trust, disputes are perceived as signals of future difficulties and usually bring about relationship termination".

Peppers and Rogers (2004) confirmed that trust is clearly useful and essential to those seeking to build a relationship between retailers and other parties. However, to build that relationship is not easy and it needs a concerted effort. The following factors are the main contributors to formation of trust (Peppers and Rogers 2004; Rix 2006):

1. Shared values, for example to strive to have fresh lamb in the stores that is of high quality and fulfils the food safety regulations and meets the requirement of the Australian meat standard (MSA), are fundamental to building mutual trust and commitment between retailers and other trading partners. Peppers and Rogers (2004) added that the extent to which trading partners in a relationship share beliefs and values, such as vision or goals, mission, policies and behaviour, will influence the ability to build mutual trust.

2. Quality communication and contact strategy is needed for parties to build trust in one another. Retailers should have an open, frequent formal or informal communication strategy. This will provide advance warnings of problems (Rix 2006). For example warnings about delay, backorder or product contamination problems should be given. Peppers and Rogers (2004) added that another main contributor to build trust and commitment is

communication which needs to be frequent and high quality in terms of being accurate, valuable, relevant, timely, up-to-date and reliable. For example, retailers need to communicate with processors regularly and accurately about carcases weight requirement, muscle, fat, slaughter date, batch number, ear tag number, reference number, carcase serial number, health status information, time of delivery, ordering policies, and quality assurance information.

3. Other practical approaches to build trust and commitment are regular food services or supermarket visits, being flexible to these retailers' needs, keeping promises, social activities and special events for the customers. For example, what we have learnt from a working partnership between Coles and Australian Country Choice is the Australian Country Choice has regular visits to the Coles or BILO supermarkets to know what are the requirements and market situation in the supermarkets. In addition, they have social activities and special programs for the customers, for example Easter and Christmas events, etc. With this, Coles and BILO supermarkets are trying to maintain their relationships with their customers and hence they might exceed customers' requirements.

4. Retailers need to have involvement at all levels of management, including top management, when they build trust and commitment. In other words, trust and commitment have a greater chance of success when all management are actively supporting them.

Trust and commitment exist when lamb consumers are able to forecast accurately the retailers' future behaviour based on the information given. For example, at Coles, Woolworth, Franklins and BILO supermarkets price specials must really be specials and not just a step to higher future prices. Trust and commitment can be damaged by a single negative event (Slovic 1993). The customers' trust will be diminished if the supermarkets provide the wrong information about the price. For example, if the catalogue in the supermarket says the price of minced lamb per kg is $5.99 then the actual price label in the supermarket must be $5.99.

Quality of care for consumers and community exists if there is full commitment from retailers or supermarkets to customers, community and the environment. The main effort for retailers or wholesalers to build trust and commitment is to listen to

customers and their concerns. For example, Woolworths has more than 720 stores across Australia and serves more than 13 million customers every week. It attempts to be fully committed by having the objectives: The best price, the freshest food ("For two decades we have promised our customers that we are the Fresh Food People and we are constantly working to source the best fruit and veg, 97% of which comes from Australian farms."), the friendliest service, healthy living, support of community groups (Woolworths 2012).

To create honesty and fairness, the retailers should operate consistently and honestly by reassuring the provision of high quality, clean, safe lamb products.

Conclusions

A supply chain management survey of the Australian lamb industry was conducted by distributing a mail questionnaire to lamb retailers and wholesalers. The objective was to establish a model explaining the supply chain performance indicators of lamb retailers and wholesalers in terms of antecedent cooperative behaviour.

The result of this research confirmed that trust and commitment have a strong positive correlation with lamb retailers' responsiveness. Trust and commitment are a crucial part of any long-term relationships or alliance in agribusiness firms.

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Appendix

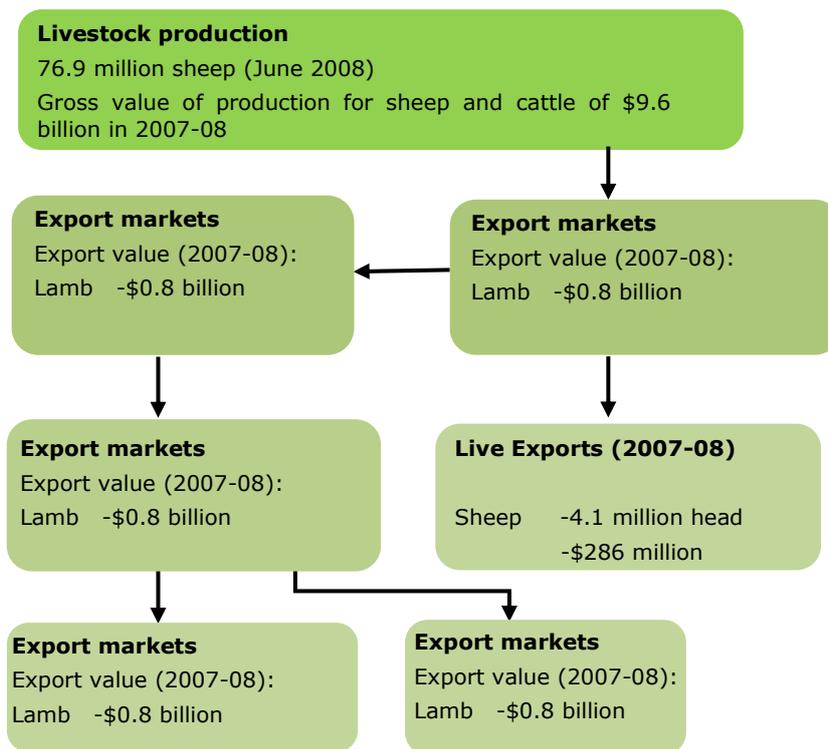Table 1. Australian lamb/live sheep exports – by volume

Products	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Lamb (kt)	99	115	109	98	112	123	143	150	163
Live sheep ('000)	4,859	5,936	6,443	5,843	3,843	3,233	4,248	4,138	4,069

Source: Australian Bureau of Statistics 2008; DAFF 2011

Table 2. Factor Analysis

Elements	Components established	Factor Loading	Item deleted
Antecedent cooperative of behaviour	2 components	0.566	No items deleted
Supply chain performance	2 components	0.672	No items deleted

Figure 1. Australian red meat value chain framework

Source: (Fletcher et al. 2009)