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Inter-organizational relational mechanism on firm performance

The case of Australian agri-food industry supply chain

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Abstract

Purpose – The purpose of this paper is to explore how structural and economic issues of organising inter-firm relationships influence a supply chain (SC) performance, by using the insight of organisational theories and institutional economics.

Design/methodology/approach – The study is an exploratory field study in the Australian agri-food industries. Using a conceptual model and a set of semi-structured interview questions, data collection was done through in-depth interviews with eight agri-food firms from the agri-food SCs in Western Australia (WA).

Findings – The findings demonstrated the requirement of higher coordination and integration from the downstream industries to include upstream producers as the integral part of the SC.

Research limitations/implications – The study is based on eight in-depth interviews on cross-sectional food SCs in WA and generalises the result for the overall food industry in WA.

Originality/value – The study provides valuable information to the existing literature on industrial management and has important value to the users of agri-food SCs. It provides empirical evidence of the factors of SC performance for agri-food producers, processors and retailers, other stakeholders and government agencies for their planning and benchmarking.

Keywords Western Australia, Supply chain management, Agri-food industry, Buyer-supplier relationship, Relational mechanism

Paper type Research paper

Introduction

Business transactions are conducted in interactive communication processes between two partners, seller and buyer, and their decisions upon the continuation of the transaction process (Stölzle, 1999). Therefore, a significant part of supply chain (SC) management literature consists of managing competent inter-organisational relationships such as alliances or partnerships in an SC to gain competitive advantage. Efficient management of the SC relationships is one of the key indicators of firms' operational excellence as it integrates suppliers and customers to improve their responsiveness and flexibility (Thakkar *et al.*, 2012; Jayaram *et al.*, 2014). Relationships in an SC may range from single transactions to complex, interdependent relationships which may vary from arm's-length transactions (or market governance) to vertical integration. The relationships can also be a hybrid cooperative relationship (Contractor and Lorange, 1988) with the members of an SC, e.g. primary producers, manufacturers, wholesalers and retailers involved in the production and delivery of goods to consumers. Besides, the levels of this relationships and SC transactions usually depend on the levels of trust, commitment, mutual dependence, leadership and top management support; the higher the levels of transactions, the closer the

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firms are to an integrated relationship, superior business performance and more profit (Golicic *et al.*, 2003; Jain *et al.*, 2014).

Previous studies have argued that a lack of emphasis on SC relationships may decline competitiveness in a marketplace (Maloni and Benton, 2000). While on the other hand, a coordinated SC relationship can provide many returns such as lower product and service costs, enhanced quality and innovation and a better firm performance (Golicic *et al.*, 2003). It has been argued that a "long-term relationships lead to reduced political, social or economic risk, reduced transaction costs, and access to economies of scale by by-passing traditional market arrangements" (Loader, 1997, p. 24) which, as Arndt (1979) noted, is crucial to compete in the marketplace to achieve greater profit margin and performance.

Based on the above issues, the current approach combines the cumulative influence of organisational theories and the new institutional economics to investigate how the structural, economic and behavioural factors of an SC relationship influence firm performance. An organisational theory such as resource-based view (RBV) (Barney, 1991; Wernerfelt, 1984) of the firm provides a potential strategy framework to develop an SC relationship as an intangible asset that is hard to imitate; that will provide a source of sustained competitive advantage in SC. The new institutional economics focus on transaction cost theory (Coase, 1937; Williamson, 1975, 1985) to identify the most efficient structure of transaction in a buyer-seller relationship emphasising the issues of minimising inter-firm transaction cost. Thus, the primary objective of this study was to empirically explore the impact of structural, economic and behavioural issues of an SC relationship in a firm performance which are crucial to creating value in the whole of SC processes. Despite a lot of research on relationship issues in agri-business SC, there is a paucity of empirical evidence showing important antecedents of relationships on firm performance in the context of Australia. There is a lack of identification and operationalization of related concepts such as governance structure, trust, power, mutual understanding and symmetry of the relationships on firm performance (e.g. Skipworth *et al.*, 2015; Prajogo and Olhager, 2012). Since SC outcome and firm performance are increasingly intertwined (Hult *et al.*, 2006), this study thus can contribute to the facts why some SC outperforms others.

The next section provides the research context followed by background theories and literature reviews. The research model and methodologies are then discussed. After that, a detailed analysis of the findings is presented. Finally, the study concludes with the implications of the results.

Research context

Australia is an exporter of wheat, meat, wool and other agricultural products where the food industry is a major component of the Australian economy generating export income of around $24 billion (DAFF, 2008). But the contribution from the agri-food sector to Australian GDP has been declining over the last century as compared to the proportionate growth of other areas of the Australian economy. It has fallen to approximately 2.3 per cent of GDP with an export income of only around 20 per cent (The Conversation, 2015) compared to 70 per cent in the first half of the nineteenth century. The major factors are identified as export competitiveness and market development issues such as operational inadequacies, lack of innovativeness of the smaller and local firm, failure of achieving cost competitiveness and dominance of spot market, among others (DAFF, 2008; Jackson *et al.*, 2007).

Traditionally, the Australian agri-food SC has been dominated by auction systems and regulated markets, which means the buying and selling of the products are conducted without prior commitments placed on producers, and with little control over the commodities by buyers. From the auction/spot market, producers do not gain any insight

from their customers as they are isolated from rest of the food chain. Likewise, processors lack innovative initiatives to develop the buyer-seller relationship with the producers while a low-trust environment often exists and causes companies to fail in business performance (O'Keeffe, 1998). Drawing on the issues, this study was developed to identify the significant SC relationships and performance factors in the Australian agri-food industry so that it would enable the integration and consolidation of all the stages of the SC from input suppliers to farms, processors and retailers for an improved business performance.

Background theories

Transaction cost economics (TCE) is the most widely used theoretical lens for analysing the development and impact of governance and relationship structure in food SC (Den Ouden *et al.*, 1996; Hobbs, 1996; Hobbs and Young, 2000; Schulze *et al.*, 2006). According to TCE, in buyer-supplier relationships, the governance structure is related to the choice of a particular transactional and relational mechanism such as a formal contract or bilateral investment that influences the inter-firm exchange process (Bijman, 2006; Liu *et al.*, 2009). The process always involves some common costs, e.g. costs of searching information on potential buyers or sellers, products and prices; costs of negotiating physical act of a transaction such as writing contracts, hiring lawyers, investment in machinery, intermediary auctioneers; and costs of monitoring or enforcing pre-agreed terms of transactions such as ensuring quality of goods, behaviour of the parties. These costs may increase depending on the information asymmetry, bounded rationality (decision making under partial information) and opportunistic behaviour between partners in a transactional relationship. Cost can also be affected by relation-specific investment, uncertainty and frequency in the transaction. For example, a sunk cost, arise from a broken contract can be very high if the relation-specific investment is high, although a formal contract can be a primary tool to protect a particular investment and safeguard the cost of opportunism. TCE posits that the governance structure and relational mechanism are derived from economic rationality such as when transaction costs of using spot or open market system rise; it is efficient to carry out the operation by a strategic alliance through contracting or by vertically integrating the firms (Williamson, 1975, Hobbs, 1996).

Based on the work of Williamson, studies suggest that the methods of making inter-firm transactional relationships may range from the spot market, specification contracts, relation-based alliances, equity-based alliances and vertical integration. Some authors have also focussed on informal arrangements such as trust and power-based relationships in governing a transaction (Powell, 1990). But some studies believe that stricter vertical coordination in agri-food chains is crucial for a better information flow and product, better performance and competitiveness because it provides a better way of contact, control and contracting costs in the SC by addressing the issues of growing quality requirement, food safety and other difficult-to-detect attributes of food products (Den Ouden *et al.*, 1996; Hobbs and Young, 2000; Schulze *et al.*, 2006).

An organisational theory such as RBV, on the other hand, provides a potential strategy framework to develop the relationship structure, as an intangible and non-tradable asset that is hard to imitate for a sustained competitive advantage (Barney, 1991; Wernerfelt, 1984; O'Keeffe, 1998). Studies have argued that mutual understanding, coordination in achieving each other goals and shared priorities can be considered as a value-creating economic resource which will have a significant influence on SC transaction and firm performance (Clare *et al.*, 2005; Duffy and Fearne, 2004; Nidumolu, 1995; Qrunfleh and Tarafdar, 2014). Some authors also argued that partnership based on respect or symmetry of relationship can be productive where disputes are resolved amicably (Clare *et al.*, 2005). Thus, transaction-specific investment, trust and other relational norms enable firms to accumulate organisational capital resources such as increased information sharing and

reduced opportunistic behaviour that may lead to a rare, valuable and non-substitutable asset for a sustained firm performance (Dyer and Chu, 2000; Duffy and Fearne, 2004).

Drawing on the above issues, the research framework used in the study is shown in Figure 1. Definitions of the factors and sub-factors are given in Table I.

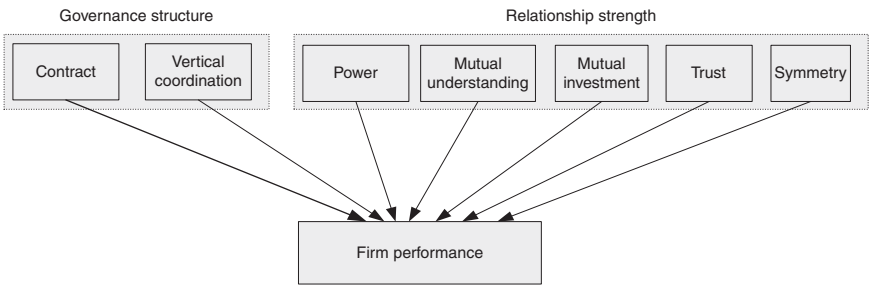

Figure 1.
The research framework

Factors	Definition	Sub-factors	Definition
Governance structure/ transactional mechanism (Williamson, 1975; Hobbs, 1996; Bijman, 2006; Liu *et al.*, 2009)	Inter-firm transaction arrangement that influences the exchange process within which the operation is conducted	Contract (MacDonald *et al.*, 2004; Liu *et al.*, 2009; Bijman, 2006)	Terms and conditions to organise the transfer of agricultural products from upstream farmers to downstream retailers, or other farms
		Vertical Coordination (Mighell and Jones, 1963; Hobbs and Young, 2000; Schulze *et al.*, 2006)	Organisation of a supply chain where each successive stage in the production, processing and marketing of a product is appropriately managed and interrelated
Relationship strength	The dimension of inter-firm relationships that positively influence SC transactions	Power (Cox, 1999; Maloni and Benton, 2000; Sodano, 2007; Szabo and Bardos, 2005)	The capability of one party is informally receiving obedience from another party in SC transaction
		Mutual understanding (Bensaou, 1997; Nidumolu, 1995)	Broader understanding and compatibility in setting the priorities to achieve each other business goals
		Mutual investment (O'Keeffe, 1998; Liu *et al.*, 2009)	The level of investments made into the relationship
		Trust (Mayer *et al.*, 1995; Duffy and Fearne, 2004)	The extent of reliability to a partner. The belief that an exchange partner is will not exploit other party's vulnerabilities
		Symmetry (Spekman *et al.*, 2000; Clare *et al.*, 2005)	Refers to the respects and equality in a relationship and proportionate share of the benefits
Firm performance (Gunasekaran *et al.*, 2001; Liu *et al.*, 2009)	The outcome from a cooperative relationship in SC in the form of increased sales, productivity and market share		

Table I.
The definition and reference of the factors and sub-factors used in the study

Method of the study

This study was driven by the qualitative paradigm of research. A field study based on in-depth interviews was adopted as the method of qualitative inquiry in the agri-food industry, as it is a dynamic, non-linear process that allows the researcher to become familiar with the research topic (Mason, 1990) in real-world conditions. Moreover, there is evidence from hundreds of years of using interviews as an effective tool to collect data. The advantage of in-depth interviews is that they can cover a wide area of interest, helping the researcher to explore and identify key issues. It provides up-to-date, rich and detailed information and key insights enabling the researcher to identify the important factors involved in the study (Nelson, 2006).

Sample

The sampling and number of interviews in a field study may depend on the research objectives, complexities and on the available time and cost (McGivern, 2003). However, in this study eight interviews were conducted; one in each of the eight agri-food firms in Australia, as a selection of eight to ten sample cases is typical in a qualitative study (Eisenhardt, 1989; Chan and Ngai, 2007). As the intention was to interview the key participants of SCs ranging from upstream growers/producers to downstream processors and retailers/wholesalers, a convenience sampling was undertaken to select the participant firms based on their willingness to participate in the study (Xu and Quaddus, 2005; Zikmund, 2003). The targeted participants were divided into three groups of farmers, (processors and retailers/wholesalers where the main criterion for selecting the sample firm was its involvement in an SC transaction. Also, the interviewees were chosen based on their key role in the SC/distribution or logistics side of the company. Table II listed the role and business type of participants and firms.

Process of data collection

The data collection processes can be described in two stages, as shown in Figure 2. The first phase starts by developing the framework of the study based on an extensive literature review of the relevant research, which is followed by designing a questionnaire for semi-structured interviews. The issues and concepts that are important in the agri-food industry SC in the Australian context were developed and then structured into a set of open-ended questions. The process was followed immediately by searching for a convenient sample of firms and gaining approval of interviewing. In the busy Australian business environment, it was difficult to contact and get appointments with experienced persons in the SC or logistics division of a firm.

The researchers were able to get a list of the companies from the Department of Agriculture and Food, Western Australia (DAFWA) and spent two months seeking

Table II. Demographic information of the participant company

Company code	Nature of business	Participant's position	Participant category	Experience in SC (years)
Firm 1	Meat	Executive	Producer	More than 20
Firm 2	Vegetables	Owner	Producer	More than 20
Firm 3	Meat	Owner	Producer	More than 15
Firm 4	Food and grocery	Merchandise manager	Wholesaler and retailer	9
Firm 5	Meat	Executive	Processing	7
Firm 6	Biscuits, soups and chips	Logistic controller	Processing	16
Firm 7	Seafood	Manager	Processing	13
Firm 8	Food and grocery retailers	Distribution centre manager	Retailer	8

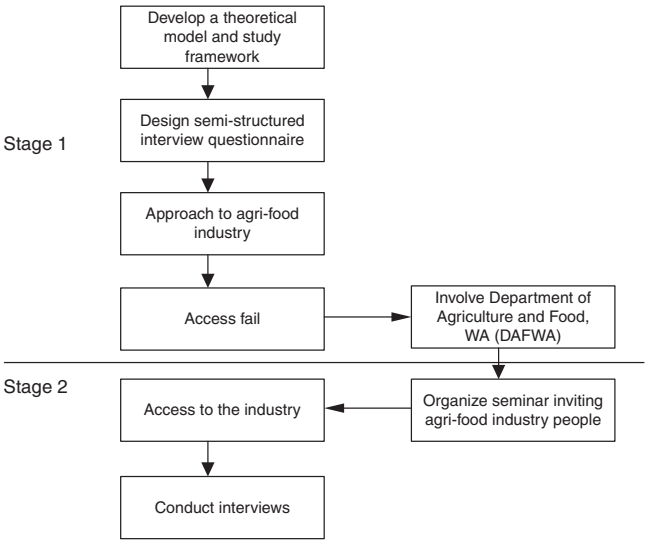

Figure 2.
Process of data collection

appointments by writing, e-mailing and making phone calls to targeted companies. Although it resulted in two interviews, one of the participants did not allow the interview to be recorded; later it was discarded from the study as the memory-based transcription seemed to be insufficient for the detailed analysis in the study. As the approach apparently failed, a surprisingly similar experience to the study of Chan and Ngai (2007) in Hong Kong, the researcher planned another approach by involving DAFWA.

In the second stage, DAFWA organised a seminar "Profit from managing knowledge and business relationships in a supply chain" inviting almost a 100 Western Australian (WA) agri-food industries and associations to participate in the seminar and publicised the study. In total, 15 companies in different sectors of agri-business participated, where the researcher presented the study objectives and benefits in detail. During the networking session, the researchers invited companies to participate in the study. The approach proved to be successful as another seven interviews were conducted within another two months; a total of eight interviews, which was sufficient to meet the purpose of the study.

All relevant data were collected through the technique of in-depth interviews following the guidelines of McGivern (2003), such as starting the interviews with a clear introduction and "warm up", then the main body and finally a clear signal of ending or "wind down". The interview schedule was arranged based on interviewee convenience, availability and voluntary willingness. All the relevant documents on interview ethics approval, interview topics and the benefits of participation were sent by e-mail to the participants well before the appointment and, in some cases, were explained over the phone. Permission was sought to record the interviews for the purpose of analysis. Thus, the researcher was able to create a more enthusiastic and congenial environment by conducting the interviews where most participants gave details of their industry experiences, examples and scenarios about SC performance. Although interviews were conducted in an informal or natural conversation format and the topics were re-phrased as the interview progressed, each interview consisted of the following items based on which open-ended questions were asked and relevant examples were sought:

- governance structure/methods of organising, inter-firm transactions;
- the level of vertical coordination;

- bargaining/market power in SC transaction; and
- level of mutual understanding, specific investment, trust and symmetric relationship in SC.

The list of questions developed from the topics ensured that the conversation stayed relevant to the research topic and investigation (Nelson, 2006). Each interview lasted from 45 minutes to an hour, as typically occurs in this type of the investigation. Discussions in each of the interviews were recorded on a voice recorder device for transcription, enabling checking and re-checking of the key issues, interviewees' opinions, beliefs and experiences (McGivern, 2003; Zikmund, 2003).

Data analysis via content analysis

The word-by-word transcription of the interviews resulted in a total of 88 pages of content, which were analysed following a content analysis procedure. NVivo 8 software was used for the analysis to allow organisation of each of the interview transcripts, coding and capturing of the important facts, ideas and statements to a relevant topic and, then, categorisation of high-level factors, corresponding items and their relationships/links across the interviews. The content analysis was initiated, by focussing the themes and sub-themes from one set of interview data, such as the transcript of Firm 1. The preliminary topics and sub-topics guided the analysis of other interviews, while all the emerging concepts were included as themes or sub-themes and amended later by checking across the interviews, visiting and revisiting the literature, and where possible labelling them with the item/variables of past studies. A combination of both inductive and deductive approach (Berg, 2001) was used to identify the core and meaningful thematic items across the interviews detecting their similarities and differences. Finally, the themes were used to identify a set of common key concepts that linked the related concepts and sub-concepts in the cases to answers relevant to the research question. Finally, to present the results, Miles and Huberman's (1984) approach of a "conceptually clustered matrix" was employed for noting patterns in the data, summarising participants' quotations of related ideas and concepts, and grouping them in a table. This resultant "across-case contrasts" matrix recognise in the findings of the study.

Findings of the study

Governance structure

Contract preference. In governing the food industry SC, all the processing and retailing firms focussed on formal arrangements such as contracts and property rights for governing the buyer-seller transaction. The important comments, as presented in Table III, demonstrate that businesses are relying on contracts to arrange their transaction structures in the SC for ensuring the required quantity and quality of products, a stable price and schedule of product delivery through the SC. For example, "We build the relationship based on contract. We issue a letter or contract of what we require, how we require; we will work with them in freight or transport side, we offer them our services for sales or they may want to do it by themselves depending on the cost" (Firm 8 – retailer).

The participants stated that they use contracts for making an investment or promoting a product, which is important to ensure their brand image among the customers. For example, Firm 7 stated "We use a trading term relationship, with a business deal, where we have terms of trade with them, say this is the things that I am going to invest, and that's the thing we want from you. We will advertise the product and do those sorts of stuff and if you agree on it set the trading terms and then just supply the products".

At the producer's level, vegetable growers also prefer a contractual relationship. For instance Firm 2 said: "Produce mainly vegetable crops price in the spot market is very

Question	Firm code	Excerpts of data on contractual arrangement
What is the method of organising your inter-firm transaction in SC? Is it based on contract or open market?	Firm 2	Produce, mainly, vegetable crops price in the spot market is very uncertain, and no longer can we have some days 10 dollars a box, some days 8 dollar or some days 1 dollar a box. We need a contract to ensure the price […] because you know what you will get […] and you know that you have a market to sell (Producer)
	Firm 3	We prefer to sell our products at auction. The contract is nothing. If I had an attractive contract, I might treat its contract. The contract may blow you by the cost of production; better follow how the market goes up. Even though the contract for lamb or sheep was not too bad, I found it not profitable. That's why this year I did not do the contract for lamb because the market was zero when they offer the contract (Producer)
	Firm 4	These days there are lots of businesses who are smart enough and always been on contract. Our business relationships also always work on contract, because there are many issues for which we don't want to go down. If you have a contract in written and is understood by both parties, then you should know what issues are there for all (Wholesaler/Retailer)
	Firm 6	We have contracts with our main suppliers. We have a contract regarding deliveries which should be signed up. Also, having a contract with our distributors that there is a minimum quantity to take an order from us to located delivery (Processor)
	Firm 7	We make a trading term relationship with a business deal; we have terms of trade with them – say this is the things that I am going to invest, and that's the thing we want from you. We will advertise the product and do that sort of stuff and if you agree on it, set the trading terms, and then just supply the products (Firm 7, Processor)
	Firm 8	We build the relationship based on contract. We issue a letter or contract of what we require, how we require; we will work with them in freight or transport side, we offer them our services for sales or they may want to do it by themselves depending on the cost (Retailer)

Table III.
Findings on the governance issues and link on firm performance

uncertain, and no longer can we have some days 10 dollars a box, some days 8 dollar or some days 1 dollar a box. We need a contract to ensure the price […] because you know what you will get […] and you know that you have a market to sell". The finding is in line with the studies of Guo *et al.* (2005) and Schulze *et al.* (2006) where authors found contracts are a highly preferable option for vegetable producers about bringing down the price risks.

However, the study found an opposite scenario in the meat industry where the producers preferred the open market system rather than a contract; they did not find it attractive for their profitability. The picture is better depicted by the statement of Firm 3: "We prefer to sell our products at auction. The contract is nothing. If I had an attractive contract, I might treat its contract. The contract may blow you by the cost of production; better follow how the market goes up. Even though the contract for lamb or sheep was not too bad, I found it not profitable. That's why this year I did not make the contract for lamb because the market was zero when they offer the contract" (Meat producer).

Vertical coordination. Agricultural economists believe that vertical coordination is particularly important in the agri-food industry because of its complexity, the large number of firms that participate in one or more stages of a buyer-supplier relationship and the requirement of specific quality and freshness of products. Vertical coordination ranges

from open market (spot/auction) transaction to full vertical integration and includes intermediate forms such as strategic alliances, joint ventures and contracts (Mighell and Jones, 1963; Hobbs and Young, 2000; Prajogo and Olhager, 2012). Figure 3 shows the factors and variables in the vertical coordination of SC (derived from the content analysis using NVivo).

The study found that none of the firms is vertically integrated, although the processing and retailing companies (Firms 4, 6, 7 and 8) are having some vertical coordination by making a direct relationship with their contracted growers/suppliers. They are also utilising other market sources starting from the spot market to their contracted suppliers to meeting the demand of customers. Table IV presents the relevant comments. For example, Firm 8 stated: "Our basis is the grower base, on top of that we got our central market, and brokers on top of that because if a grower does not have enough for some reasons or things go wrong, we need to have a backup plan, from where we can source it […] if the grower base does not produce what we need then we go to others, we don't close any doors anywhere" (Supermarket retailer).

The study revealed that retailing firms are maintaining almost a similar supply base for sourcing fresh meat and vegetables: a grower base, on top of that the central market and then the brokers. Because of the supply and demand uncertainty, weather change and the required freshness of perishable product, retailing companies said they do not close any doors of supply anywhere. Quality is a primary concern; because of that, some processors are strictly maintaining vertical coordination such as Firm 6 said about the specific flavour of flour, that they need for some of the products, and can only be supplied by their contracted growers.

However, the producers, both from the meat and vegetable industries, emphasis the issue of coordination from other sectors of the SC. The producers (Firms 1, 2 and 3) and a processor (Firm 5) accepted that there has to be a greater level of integration between producers, processors and retailers, where the downstream partners should recognise producers as an integral part of the SC which would help improve their cost structures and profitability. For example, Firm 1 said: "I can produce beef, twelve months in a year, my cost of production allows me a profit, given climate, given things out of my control for about seven months of the year. Now if I were paid enough to subsidise my extra cost of producing a product out of season, I would then be able to do that" (Producer).

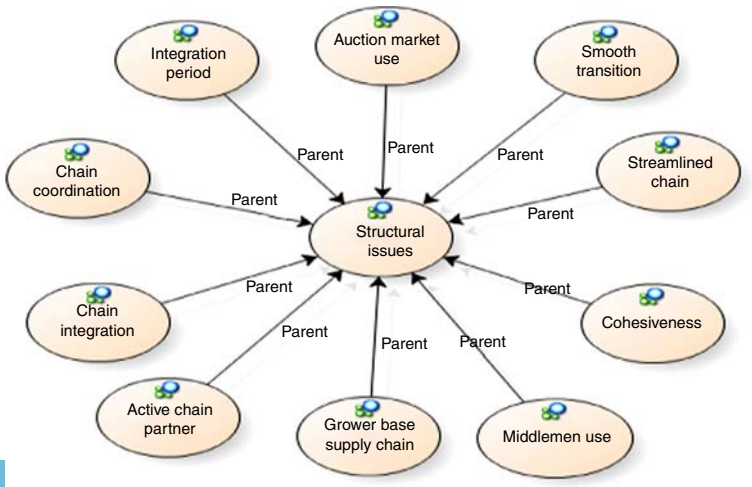

Figure 3.
Factors and variables related to vertical coordination

Question	Firm code	Excerpts of data on vertical coordination
What is the level of your integration in making an inter-firm transaction?	Firm 1	The processors and retailers have to go out and be part of the primary supplier and recognise that the producers are an integral component of the chain as they are. Say I am a beef producer from down the road, and I started growing all the right things about my beef, they don't care, they just want the cheapest beef in the window, what they can sell quickly. They do not care whether we talk about cattle nice, whether we care our cattle, whether we feed healthy organic material for our cattle (Producer)
	Firm 4	We have contracted growers for fruits and vegetables but in the meat division, we have, a lot of wholesalers out there, they come directly to our stores (Wholesaler/retailer)
	Firm 5	A lot of companies are understanding the importance that there has to be a greater level of integration between the processors and farmers […] the processors can set earlier working terms with the farmers to reduce the cost of feed and grain or any issue like that. That will help the farmers sustain the business (Processor)
	Firm 7	When we are dealing with a smaller amount of products, it is very hard for us to deal with very small or smaller farming operations, so some of these agents or brokers we might call them, they bring together a whole group of like twenty different small growers, and they are able to supply the chain that way, which is a benefit to us because when we are rolling out we don't need to deal them (Processor)
	Firm 8	Our basis is the grower base, on top of that we got our central market, and brokers on top of that because if a grower does not have enough for some reasons or things go wrong, we need to have a backup plan, from where we can source it […] if the grower base does not produce what we need then we go to others, we don't close any door anywhere (Supermarket retailer)

Table IV.
Findings on the level of vertical coordination and link on firm performance

Relationship strength

Power. The power of a food company in the SC is positively related to the economies of scale in manufacturing, retail concentration and brand penetration of the market; the power increases as the company's specific investment increases and product quality increases (Collins, 2002). The evidence for the statement found in the field study, where four out of the eight participants accepted that larger market share and brand penetration in the market is related to their bargaining power. Table V shows the critical comments of the participants. For example, Firm 4 said: "We are all very significant business for each supplier. We are very fortunate that we do have bargaining power, that's what comes to standard, can we offer value? And we can, because we have a large market share, and we can sell a lot of stock for the supplier. So I find it works in our relationship" (Wholesaler/retailer). Firm 6 stated: "Market share is the main issue where we always work very close to making sure that we are maintaining it and growing it. It is a value that helps us get bargains with the buyers. Based on our sales data we can ask our retailers for more shelf space to display our products" (Processor).

In fact, the above findings indicate how the companies are gaining bargaining power through a larger market share which offers a value for their product marketing and sales and offers buyers a value on sales and profit. The power of this relationship is important which influences the SC performance. This study shows that a positive pro-active SC is only enforceable, or likely to emerge when there is a consistent direction in dominance or interdependence among the chain participants (Revell and Liu, 2007). However, some studies found that if processing, distribution and retailing firms abuse their market power, the farmers' share in the market in terms of consumer expenditure may decrease

Question	Firm code	Excerpts of data on bargaining/market power of the companies
Do you think the strength of your bargaining/market power has a role in the SC transaction and performance?	Firm 1	We don't have any market power in the meat industry. We got no control or influence over the price. You had to sell your cattle, because of the stocking. You have the stock; butchers know it, abattoirs know it, and so they determine the price (Meat producer)
	Firm 2	They [buyer] use all sorts of excuses, quality, too much produce around, loss of market because they buy and they have the market to sell. We the farmers are losing. We are price takers; we take whatever price […] it's very tough to make a good relationship when they make a better bargain, and it is inappropriate for us (Vegetables producer)
	Firm 3	A lot of them won't write a contract for a particular time of the year because they know you have to sell your cattle, they know you can't hang on to your cattle. So they say we will pay you less. And we can't wait as price taker because the product may go over certain weight, certain grade and specification (Producer)
	Firm 4	We are all very significant business for each supplier. We are very fortunate that we do have bargaining power, that's what comes to standard, can we offer value? And we can, because we have a large market share, and we can sell a lot of stock for the supplier. So I find it works in our relationship ((Wholesaler/retailer)
	Firm 6	Market share is the main issue where we always work very close to making sure that we are maintaining it and growing It. It is a value that helps us get bargains with the buyers. Based on our sales data we can ask our retailers for more shelf space to display our products (Processor)
	Firm 8	We negotiate the price week to week; we do re-negotiate day to day […] you know things can change, for example, when stocks are coming for the following week, and we find that there are a lot more available, we re-negotiate sometimes. Sometimes we find we are in short of supply, and we re-negotiate there as well, so it's pretty loosely based on market value (Supermarket retailer)

Table V.
Findings on bargaining/market power and link to firm performance

(Bunte, 2006). From the field study, evidence of this statement is demonstrated by the following two comments from meat producers: "[The buyers] are cutting our cost absolutely minimum, so you got some money to live on! If you are trying to keep your production high, you need to reduce your cost, and that's very dangerous because we are controlled by the weather. If something goes wrong with the season, you will be in strife; you may get lots of skinny stock" (Firm 1 – Meat producer). Firm 3 said: "They discounted a world class product to a level that's not sustainable for us to keep producing. That's why in this area, there are now only five full-time farmers; it used to have been thirty once, while this is one of the most reliable places in WA for farming" (Firm 3 – Meat producer).

The frustration expressed in the above statements is common in the upstream food industry as the producers were having less bargaining power than the wholesalers and retailers. This market condition may push the food SC from competitive (i.e. spot markets and complete contracts) to imperfectly competitive environments made up of incomplete contracts where large firms usually try to appropriate as much value as possible for themselves on the basis of their critical assets, controlling resources or based on the circumstances that give them bargaining or market power. For example, Firm 3 stated that: "A lot of them [the buyers] wouldn't write a contract for a particular time of the year because they know you have to sell your cattle, they know you can't hang on to your cattle. So they say we will pay you less, and we can't wait as price taker […] because the product may go over certain weight, over the certain grade and specification (Firm 3 – Meat producer).

The importance of the statement lies in how a contract can be incomplete and may create a hold-up problem for the producers. In Hungary, Szabo and Bardos (2005) found that even though there was some written contract, food processors often change the terms of contracts using the bargaining power and causing hold-up problems (exploiting the vulnerability with perishable products) for the producers who have relation-specific investments. They suggest that producers should come up with an organisation (producers' group, cooperative) to increase their bargaining power. SCs with an overall buyer or supplier dominance are most likely to experience adversarial effects as one of the producers from the field study realised; when there is more bargaining power, it is tough to make good relationships.

Mutual understanding. Mutual understanding between the buyer and seller has a positive impact on the performance of the agri-food chain. It can increase the level of confidence among the suppliers and can reduce many unexpected frictions which are important for developing a long-run relationship. For example, Firm 2 stated that: "If you don't have a common understanding of your relationship, it will be hard to work through. Say, when our buyers ask the best time to promote our product, we give them a window, say in January we will have a lot of cauliflowers when we can promote it. We try to plan that out; we work out a rough price that we think we sell it for" (Producer). Firm 6 said: "Anyone wants a new customer-vendor, we meet with them, we believe what the term is, what the goal, we always do whatever we can, visit their facilities and look at their labour […] see everything with them go on right" (Processor).

Firms invite suppliers to show off their facilities, develop understanding about what they consist of and solve problems that may arise in deliveries. While the supplier should know the effect of non-compliance in delivering required quality and quantity of products, the buyer should have understanding of the limitations of the sellers in supplying the product. Perception and broader understanding of each other's work as well as awareness of the limitations help both parties work more cohesively and increase performance in the SC as a satisfied buyer firm shows: "we also see from their side what we can do, pick an order and get it to sell".

Mutual investment. Studies argued that investment can make an active buyer-seller relationship and enhance business transactions (Lu *et al.*, 2006). Evidence also comes from the findings, as displayed in Table VI, that investment right through the SC improves its efficiency and performance. Firms are making mutual investments catering to the particular needs of primary producers and processors, producers and market agents, or producers and retailers, which are a major source of value creation in an inter-firm transaction. Firms are also investing in relation-specific assets to create a long-term relationship; for example, Firm 6 stated that "Our relationship with L […] is extended for a longer term for a mutual investment in building new warehouses and some other facilities […], and that works well in improving the efficiency of the deliveries of our inbound/outbound goods". Other firms said they make joint investment when they like to develop new products or feed to ensure the quality of the goods.

Trust. Trusted relationship is considered as a value-creating economic asset as it lowers the cost of controlling and monitoring a contract (Dyer and Chu, 2000; Li *et al.*, 2015). Trust is a crucial element in the agri-food SC due to the characteristics of food products, some of which may only be analysed after the consumption of food (experience characteristics), and some may not be examined at all (credence characteristics). The study revealed a low-trust buyer-supplier environment in the food SC, as almost all the firms expressed their reliance on the contract for a smart relationship. The important comments on trust are presented in Table VII.

The study found growers' perception of trust on its transaction partner is lower than the perception of the processing and retailing firm, which is evident by "Trust is finished.

Question	Firm code	Excerpts of data on/mutual understanding
How do you think mutual understanding in SC relationship has impact on your performance?	Firm 2	If you don't have a shared understanding of your relationship, it will be hard to work through. Say, when our buyers ask the best time to promote our product, we give them a window, say in January we will have a lot of cauliflowers then we can promote it. We try to plan that out; we work out a rough price that we think we sell it for (Producer)
	Firm 4	Both sides [buyer-supplier] have a good understanding how we work, so we don't put too much demand on them, and then they understand what impact it would be if they don't produce what they promise, and we don't get it. So they understand that well, and that's what we require too for our performance (Wholesaler/retailer)
	Firm 6	Anyone wants a new customer, we meet with them, we believe what the term is, what the goal, we always do what we can, visit their facilities and look at their labour […] see everything with them go on right (Processor)
	Firm 7	We have a very good understanding among the members. Sometimes a bit of friction between the parties but they can make query if any supply is penalised. A printed report is normally provided on every product in the supply chain, which is a good system and important for the business (Processor)
	Firm 8	We invite our suppliers, we show them around, show them what we do, show them what are they consist of, so that they have complete understanding, if they are in queue in outside for an hour, or waiting at the dock to unload, they can understand why sometimes it takes so long (Supermarket retailer)
Do you have any joint venture or mutual investment in the relationship?	Firm code	Excerpts of data on mutual investment
	Firm 2	At the central market sometimes growers and market agents started an off-market agency. We also invested money with the wash packers (Producer)
	Firm 3	We had had investment from the stock agent to improve the quality of feeding when I got beef cattle (Producer)
	Firm 6	Our relationship with L […] is extended for a longer term for a mutual investment in building new warehouses and some other facilities […] and that works well in improving the efficiency of the deliveries of our inbound/outbound goods (Processor)
	Firm 7	There is investment right throughout the supply chain, it happens in some instances where we might be buying a product from a particular farmer, we invest to make sure he got the right instruments (Processor)
	Firm 8	We do have investment with the producers when we get new lines, new fridge or new vegetables come on board (Supermarket retailer)

Table VI.
Findings on the relationship issues and link to firm performance

We don't believe in trust; we need a contract with the partners to ensure the price" (Firm 2 – Vegetables producer). The processing firms commented more substantially: "It would not come in handy to have a contract in place, obviously have we ongoing trusted relationship with our growers" (Firm 6 – Processor). However, it is found that although the retailers believed on an indirect role of trust in their day-to-day dealings and performance, still they rely on written terms and regulations to conduct monetary transactions. For example, Firm 8 said "[…] majority of the stuff are written in trading terms. All the legal stuff are written, all the stuff relating to money. But then, of course, you are dealing with these people week to week, their plan, promotions and like that, you don't write everything […]".

Symmetry. The existence of equality and respect in a relationship, with the sharing of risk and benefits, may influence the performance of agri-food SC. Studies argued that partnerships should be based on the symmetry of relationship (Clare *et al.*, 2005) with the sharing of risks, burden and benefits between two firms (Bensaou, 1997). The current study

Question	Firm code	Excerpts of data on trust
What is the role of trust in SC?	Firm 2	Trust is finish. We don't believe in trust; we need a contract with our partners to ensure the price (Vegetables producer)
	Firm 5	I think trust is about 50 per cent of the right issue because when it comes to a dollar, things get tight, trust gets out of the door, and in reality, it can't hit the relationship when all the parties share the risk (Processor)
	Firm 6	It would not come in handy to have a contract in place, obviously have we ongoing trusted relationship with our growers (Processor)
	Firm 8	The majority of the stuff are written in trading terms. All the legal stuff are written, all the stuff relating to money. But then, apparently, you are dealing with these people week to week, their plan and promotions and like that, you don't write everything (Supermarket retailer)
What do you think about the symmetry in a transaction?	Firm code	Excerpts of data on symmetry in the relationships
	Firm 1	For a successful relationship, the producer and processor have to share in the fluctuation of market […] the risk should be shared, so should the price. If I am the processor and offered you a price, but if the auction market exceeds that price I will pay you half the difference. If it drops, you pay me half my difference. That's reasonable, common with the approach of some larger companies (Producer)
	Firm 2	Don't expect the farmers to continually the price takers; they have to share the risk between the two (Producer)
	Firm 5	The relationship should emphasise getting highs and lows equally in the marketplace. It means the farmers or producers, the processors and the feed mills if they all share the risk of supplying the product that will surely impact on a sustainable performance (Processor)
	Firm 8	There is a lot of cost on this side of business what the supplier can't cover sometimes, and for them, if they don't have long-term dealings and benefits with someone fairly stable […] they may have difficulty (Supermarket Retailer)

Table VII.
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revealed substantial evidence of the role of symmetrical relationship in firm performance from four participants (Firms 1, 2, 5 and 8) where symmetry is an important factor in improving the relationship and performance. For example, Firm 5 pointed that: "The relationship should emphasise getting highs and lows equally in the marketplace. It means the farmers or producers, the processors and the feed mills if they all share the risk of supplying the product, it surely would impact on a sustainable performance. One producer explained the process as "the producer and processor should share in the fluctuation of market […] the risk should be shared, so should the price. If I am the processor and I offered you a price, but if the auction market exceeds that price, I will pay you half the difference. If it drops, you pay me half my difference. That's reasonable, common with the approach of some larger companies" (Firm 1 – producer).

Thus, the findings suggest an important aspect of risk sharing; that if the market price exceeds the offered price, the buyer should pay half of the difference while if it drops the seller will bear half of the difference. It can simplify the transaction process and work as an incentive, while the insight is greater integration and respect between the members of transaction that may result in more benefits and satisfaction in performance. Otherwise, frustration can arise, as in line in the following comment: "The difficulty is that farmers in the food industry, being primary producers, are not holding the same status in the supply chain, as the other participants. The retailer has a good relation with the wholesaler. The wholesaler has a great relationship with the processors. The processor has a reasonable working relationship with producers. But in agriculture the retailer would not know about issues if the farmers are failing; they would not know their cost of production" (Firm 1 – Meat producer).

Discussion

The study provides an understanding of the factors related to inter-organisational relational mechanisms and firm performance in the Australian agri-food industry SCs. The factors were explored in two different segments: SC structure, e.g., contracts and vertical coordination and the economic and behavioural issues of inter-firm relationships, e.g., power, mutual understanding, mutual investment, trust and symmetry of relationships. The study revealed that a low-trust buyer-supplier environment, dominance of the spot market and isolation of the growers from rest of the food chain affect the profitability and productivity of the upstream food producers. The study found a contract is a preferable option to the processors and retailers while the traditional market arrangement is still a better choice for the producers, especially in the meat industry. Where there is a traditional market method, this is mainly because the producers are not able to extract a good contract for a reasonable profit from the other part of their supply chain members.

The study provides evidence of vertical coordination led by the processors and supermarket retailers which have a positive impact in SC transactions and firm performance. The results found that some vertical coordination exists in the processing and retailing companies SCs made with their contracted producers. The coordination provides them increased understanding and reduced lead time, enhanced quality and quantity of products. Being the primary concern of supply and demand uncertainty and the seasonal change and freshness of products, the large retailing companies in Australia have described how they maintain a grower-based SC with occasional use of spot market and brokers. The study provides evidence that use of open markets and arm's-length relationships can put the agri-food industry in an uncompetitive position because it detached the producers from rest of the food chain and can cause barriers to understanding the value-added costs, businesses and trust with other members, i.e., the upstream processors and retailers in the SC. The study found that producers' interests in developing a long-term relationship with their SC partners are high as it can reduce the uncertainty of selling their products. For the processors and retailers, long-term dealing, information sharing and direct communications with the suppliers may reduce the costs of repetitive contracts and provide the benefit of a consistent supply and quality produce.

The results provide evidence that different power circumstances can influence the elements of inter-firm relationships and SC performance such as trust, inter-firm contracts, commitment and symmetry of the SC participants. The growing bargaining power in the retailer sector seems to have been a major influence in setting the product price and distribution of margins within the chain. The study found that the producers' share of the market is declining because of the growing bargaining power used at the wholesaler and retailer levels. The existing imbalance of power created an imperfect market condition in the food SCs with incomplete contracts and a disproportionate share of benefits. It means the large firms such as processors, wholesalers and retailers are extracting as much value from the market as possible by their critical assets and control of resources.

The study found other important aspects of SC performance such as how the equality and respect in inter-firm relationships, sharing of risks and benefits influence the degree of overall performance of the food chain. The findings demonstrated that mutual understanding and shared priorities between buying and selling firms have a substantial impact on the SC as it increases the level of confidence among the suppliers; they can drive down unexpected frictions mutually which is important for developing a mutual long-term relationship. While the supplier should know the effect of non-compliance in supplying required quality and quantity of a product, the buyer should know the limitations of the seller in delivering the product. Broader perception and understandings of each other's work and its limitations help both parties work more cohesively and increase performance in the food SC.

Implications

The qualitative study presented in this paper is a sensible combination of the insight of organisational theories and institutional economics to explore how the structural and economic issues of organising inter-firm relationship in Australian agri-food SCs influence the performance of the industry. The model of the study seems to adequately identify the factors that have significant roles in influencing the performance of agri-food industries. The results have practical implications for the producers, processors, retailers and other stakeholders of the industry in Australia as well as in other agri-food industries in overseas.

The empirical evidence and a deeper understanding of the elements of the relational exchanges have considerable importance in operational and strategic level of the firms in several ways. First, the findings indicated that, by avoiding immediate economic benefit from the other members of SC, firm could build their SC as a resource itself by improving innovation through a competent long-run vertical relationship with the producers, processors and retailers. Trusted relationships can be considered as a value-creating economic asset because it reduces transaction costs by diminishing the efforts of formal contracting and the costs of controlling and monitoring SC transactions.

Second, the result suggests minimising the total cost of transactions by engaging all the stakeholders in the SC with a symmetric knowledge flow for standardising the contracting terms, setting joint planning and investment areas, developing trust and directing consistent power. The result suggests strengthening the vertical relationship in an organised form of coordination, where the producers will be an integral part of the chain, not being as price takers but by sharing the risk and benefit equally in the chain. The results indicate that a better relational mechanism can reduce the cost of new contracts, increase productivity and profitability of an SC partner. Thus, it is possible to achieve farm-level innovation by creating/utilising shared information resources, making equally beneficial contracts, creating long-term relationships and trust with other members and thereby building the SC as a source of sustained competitive advantage for overall better firm performance. For example, based on the current market trends, a beef producer may need advanced information on feeding, animal health and biological attributes of the product to make necessary adjustments in farming methods leading to carcass development within a targeted quality and cost. On the other hand, processors and retailers may need to know the quality attributes and markets of these products with detailed information about where and how the product can be produced. Vertical organisation and information sharing can integrate such knowledge from many different individuals in the SC and can provide a basis of better performance across the SC.

It is suggested in this study that attitudinal and structural changes are needed for some SCs in the agri-food industry to change effectively from being commodity-focussed, and production pushed, to being market-focussed and market-driven. This is also important for the commercial viability and adaptability of the upstream producers and other players in the SC in a rapidly changing market, where consumers dictate both domestic and export markets conditions (WY and Associate, 2009). As vertical coordination is crucial in developing a market-driven SC, the producers' farms can be linked in the mainstream SC for adjacent stages of the value-adding processes. They can work under a bilateral/relational contract with identified social and economic relationships such as information sharing and pricing strategy to establish the profitability of all parties (Bicer and Hagspiel, 2016; He, 2017).

Conclusion and future work

The qualitative study reported in this paper is an exploratory field study of the Australian agri-food industries. The primary objective was to empirically explore the impact of structural, economic and behavioural issues of SC relationship in firm performance.

The conceptual model, as outlined in Figure 1, used the insight of TCE and RBV to explore how structural and economic issues of organising inter-firm relationships influence the SC performance and benefit to developing the overall performance and competitiveness of the industry. Data were collected through in-depth interviews with eight agri-food firms representing different agri-food SCs in Australia. This effort makes a contribution by confirming significant SC performance factors and a prior relationship between the factors as depicted in the model; they are extremely important information for agri-food producers, processors and retailers, other stakeholders and government agencies. The findings will enable them to do the appropriate planning and benchmark to improve the performance of the Australian agri-food industry. The study suggests that any policy intervention from the stakeholders to improve competitiveness in the industry should be geared along the lines of improving the structure and relationships in an SC, e.g., vertical coordination and integration of the industry, strong inter-firm relationships and information sharing, and reducing power imbalance in the industry.

The study has some limitations. We collected data from different types of agri-food sector to explore a generalised relational mechanism in SC and their link to the firm performance. Therefore, the result would be bit different with various interpretations depending on the particular food industry. This study tried it best to explain the experience and interpretation separately. The numbers of firms to be interviewed were also kept to a minimum to ensure that the interpretation of the terms and concepts are consistent among all the participants. The immediate plan is to use a quantitative approach using structural equation modelling to test some hypotheses and the model itself. We are planning to apply the model to a particular food industry.

References

Arndt, J. (1979), "The domestication of markets: from competitive markets to administered inter-organisational marketing systems", in Lusch, R.F. and Zinszar, P.H. (Eds), *Contemporary Issues in Marketing Channels*, University of Oklahoma, Norman, OK, pp. 55-61.

Barney, J.B. (1991), "Firm resources sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

Bensaou, M. (1997), "Interorganizational cooperation: the role of information technology an empirical comparison of US and Japanese supplier relations", *Information Systems Research*, Vol. 8 No. 2, pp. 107-124.

Berg, B.L. (2001), *Qualitative Research Methods for the Social Sciences*, 4th ed., Allyn and Bacon, Boston, MA.

Bicer, I. and Hagspiel, V. (2016), "Valuing quantity flexibility under supply chain disintermediation", *International Journal of Production Economics*, Vol. 180, pp. 1-15.

Bijman, J. (2006), "Governance structure in the Dutch fresh-produce industry", in Ondersteijn, C.J.M., Wijnands, J.H.M., Huirne, R.B.M. and van Kooten, O. (Eds), *Quantifying the Agri-Food Supply Chain*, pp. 205-221.

Bunte, F. (2006), "Pricing and performance in agri-food supply chains", *Quantifying the Agri-Food Supply Chains*, Springer, pp. 37-45.

Chan, S.C.H. and Ngai, E.W.T. (2007), "A qualitative study of information technology adoption: how ten organizations adopted web-based training", *Information Systems Journal*, Vol. 17, pp. 289-315.

Clare, B.G., Reid, J.I. and Shadbolt, N.M. (2005), "Supply base relationships in the New Zealand red meat industry: a case study", paper presented to 15th Annual World Forum, Symposium and Case Conference of the International Food and Agribusiness Management Association, Chicago, IL, 1-16 June.

Coase, R.A. (1937), "The nature of the firm", *Economica*, Vol. 4 No. 4, pp. 386-405.

Collins, A. (2002), "The determinants of retailers' margin-related bargaining power: evidence from the Irish food manufacturing industry", *International Review of Retail, Distribution and Consumer Research*, Vol. 12, pp. 165-189.

Contractor, F.J. and Lorange, P. (1988), *Cooperative Strategies*, International Business.

Cox, A. (1999), "Power, value and supply chain management", *Supply Chain Management*, Vol. 4, pp. 167-175.

DAFF (2008), *Australian Food Statistics. Australian Government Department of Agriculture*, Fisheries and Forestry, Canberra.

Den Ouden, M., Dijkhuizen, A.A., Huirne, R.B.M. and Zuurbier, P.J.P. (1996), "Vertical co-operation in agricultural production-marketing chains, with special reference to product differentiation in pork", *Agribusiness*, Vol. 12 No. 3, pp. 277-290.

Duffy, R. and Fearne, A. (2004), "The impact of supply chain partnerships on supplier performance", *International Journal of Logistics Management*, Vol. 25 No. 1, pp. 57-71.

Dyer, J.H. and Chu, W. (2000), "The determinant of trust in supplier-automaker relationships in the US, Japan, and Korea", *Journal of International Business Studies*, Vol. 31 No. 2, pp. 250-285.

Eisenhardt, K.M. (1989), "Building theories from case study research", *Academy of Management Review*, Vol. 14, pp. 532-550.

Glyde, P. (2006), "Foreword, Australian food industry: performance and competitiveness", ABARE Research Report No. 06.23, prepared for the Australian Government Department of Agriculture, Fisheries and Forestry, Canberra, December.

Golicic, S.L., Foggin, J.H. and Mentzer, J.T. (2003), "Relationship magnitude and its role in interorganizational relationship structure", *Journal of Business Logistics*, Vol. 24 No. 1, pp. 57-75.

Gunasekaran, A., Patel, C. and Tirtiroglu, E. (2001), "Performance measure and metrics in a supply chain environment", *International Journal of Operations & Production Management*, Vol. 21 Nos 1/2, pp. 71-87.

Guo, H., Jolly, R.W. and Zhu, J. (2005), "Contract farming in China: supply chain or ball and chain?", *Proceedings of the Minnesota International Economic Development Conference, University of Minnesota, 29-30 April.*

He, Y. (2017), "Supply risk sharing in a closed-loop supply chain", *International Journal of Production Economics*, Vol. 183, pp. 39-52.

Skipworth, H., Godsell, J., Wong, C.Y., Saghiri, S. and Julien, D. (2015), "Supply chain alignment for improved business performance: an empirical study", *Supply Chain Management: An International Journal*, Vol. 20 No. 5, pp. 511-533.

Hobbs, J.E. (1996), "A transaction cost approach to supply chain management", *Supply Chain Management*, Vol. 1 No. 2, pp. 15-27.

Hobbs, J.E. and Young, L.M. (2000), "Closer vertical co-ordination in agri-food supply chains: a conceptual framework and some preliminary evidence", *Supply Chain Management: An International Journal*, Vol. 5 No. 3, pp. 131-143.

Hult, G.T.M., Ketchen, D.J., Cavusgil, S.T. and Calantone, R.J. (2006), "Knowledge as a strategic resource in supply chains", *Journal of Operations Management*, Vol. 24 No. 5, pp. 458-475.

INSTATE (2000), *Exporting Australian Processed Foods: Are We Competitive?*, Instate Pty Ltd, Sydney.

Islam, N. and Johnson, P. (2003), *Agricultural Processing and the Western Australian Economy*, Department of Agriculture, Government of Western Australia, South Perth, February.

Jackson, E., Quaddus, M., Islam, N. and Stanton, J. (2007), "Behavioral factors affecting the adoption of forward contracts by Australian wool producers", *Proceedings of the 16th International Farm Management Association Congress, IFMA (International Farm Management Association) 16. Theme 5*, pp. 826-840.

Jain, M., Khalil, S., Johnston, W.J. and Cheng, J.M.S. (2014), "The performance implications of power-trust relationship: the moderating role of commitment in the supplier–retailer relationship", *Industrial Marketing Management*, Vol. 43, pp. 312-321.

Jayaram, J., Dixit, M. and Motwani, J. (2014), "Supply chain management capability of small and medium-sized family businesses in India: a multiple case study approach", *International Journal of Production Economics*, Vol. 147, pp. 472-485.

Johnson, P. and Islam, N. (2003), "Agricultural processing and the WA economy: a general equilibrium analysis", *47th Annual Conference of the Australian Agricultural and Resource Economics Society, Held at The Esplanade Hotel Fremantle, 11-14 February*.

Kannan, V.R. and Tan, K.C. (2003), "Attitudes of US and European managers to supplier selection and assessment and implications for business performance", *Benchmarking: An International Journal*, Vol. 10 No. 5, pp. 472-489.

Lee, C.W., Kwon, I.G. and Severance, D. (2007), "Relationship between supply chain performance and degree of linkage among supplier, internal integration, and customer", *Supply Chain Management: An International Journal*, Vol. 12 No. 6, pp. 444-452.

Li, Y., Li, G. and Feng, T. (2015), "Effects of suppliers' trust and commitment on customer involvement", *Industrial Management & Data Systems*, Vol. 115 No. 6, pp. 1041-1066.

Liu, Y., Luo, Y. and Liu, T. (2009), "Governing buyer-supplier relationships through transactional and relational mechanisms: evidence from China", *Journal of Operations Management*, Vol. 27, pp. 294-309.

Loader, R. (1997), "Assessing transaction costs to describe supply chain relationship in agri-food systems", *Research Papers, Supply Chain Management*, Vol. 2 No. 1, pp. 23-35.

Lu, H., Trienekens, J.H. and Omta, S.W.F. (2006), "Does guanxi matter for vegetable supply chain in China? A case study approach", in Bijman, J. *et al.* (Eds), *International Agri-Food Chains and Networks: Management and Organizations*, Wegeningen Academic, pp. 31-47.

McGivern, Y. (2003), *The Practice of Market and Social Research – An Introduction*, Prentice Hall, London.

MacDonald, J., Perry, J., Ahearn, M., Banker, D., Chambers, W., Dimitri, C., Key, N., Nelson, K. and Southard, L. (2004), "Contracts, markets, and prices. organizing the production and use of agricultural commodities", Agricultural Economic Report No. 837, USDA Economic Research Service.

Maloni, M. and Benton, W.C. (2000), "Power influences in the supply chain", *Journal of Business Logistics*, Vol. 21 No. 1, pp. 49-73.

Mason, S.A. (1990), "Communication processes in the field research interview setting: a case study", paper presented at the 81st Annual Meeting of the Eastern Communication Association, Philadelphia, PA, April, pp. 19-22.

Mayer, R.C., Davis, J.H. and Schoorman, F.D. (1995), "An integrative model of organizational trust", *The Academy of Management Review*, Vol. 20 No. 3, pp. 709-734.

Mighell, R.L. and Jones, L.A. (1963), "Vertical coordination in agriculture", USDA_ERS, Agricultural Economics Report No. 19, February.

Miles, M. and Huberman, A.M. (1984), *Qualitative Data Analysis*, Sage Publications, Beverly Hills, CA.

Nelson, S.A. (2006), "Making fun: work and organizational practices in Australian aquatic theme parks", PhD thesis, Department of Management, Griffith University.

Nidumolu, S.R. (1995), "Interorganizational information systems and the structure and climate of seller-buyer relationships", *Information & Management*, Vol. 28, pp. 89-105.

O'Keeffe, M. (1998), "Establishing supply chain partnerships: lessons from Australian agribusiness", *Supply Chain Management: An International Journal*, Vol. 3 No. 1, pp. 5-9.

Powell, W.W. (1990), "Neither market nor hierarchy: network forms of organization", in Staw, B.M. and Cummings, L.L. (Eds), *Research in Organization Behavior*, Vol. 12, JAI Press, Greenwich, CT and London, pp. 295-336.

Prajogo, D. and Olhager, J. (2012), "Supply chain integration and performance: the effects of longterm relationships, information technology and sharing, and logistics integration", *International Journal of Production Economics*, Vol. 135 No. 1, pp. 514-522.

Qrunfleh, S. and Tarafdar, M. (2014), "Supply chain information systems strategy: impacts on supply chain performance and firm performance", *International Journal of Production Economics*, Vol. 147, pp. 340-350.

Revell, B.J. and Liu, X. (2007), "Chain management challenges and market power in the Chinese fresh produce sector", in Bijman, J. *et al.* (Eds), *International Agri-Food Chains and Networks: Management and Organizations*, Wegeningen Academic, pp. 217-229.

Schulze, B., Spiller, A. and Theuvsen, L. (2006), "Is more vertical integration the future of food supply chains? Empirical evidence and theoretical considerations from German pork production", in Bijman, J. *et al.* (Eds), *International Agri-Food Chains and Networks: Management and Organizations*, Wegeningen Academic, pp. 49-63.

Sodano, S. (2007), "A power-based approach to the analysis of the food system", in Bijman, J. *et al.* (Eds), *International Agri-Food Chains and Networks: Management and Organizations*, Wegeningen Academic, pp. 199-215.

Spekman, R.E., Isabella, L.A. and MacAvoy, T.C. (2000), *Alliance Competence: Maximizing the Value of Your Partnerships*, Wiley, New York, NY, p. 304.

Stölzle, W. (1999), *Industrial Relationships*, Oldenbourg, München and Wien.

Szabo, G.G. and Bardos, K. (2005), "Vertical coordination by contracts in Agribusiness: an empirical research in the Hungarian dairy sector", KTI/IE Discussion Papers No. 2005/15, Institute of Economics Hungarian Academy of Sciences.

Thakkar, J., Kanda, A. and Deshmukh, S.G. (2012), "Supply chain issues in Indian manufacturing SMEs: insights from six case studies", *Journal of Manufacturing Technology Management*, Vol. 23 No. 5, pp. 634-664.

The Conversation (2015), "Australia's 'five strong pillar economy': agriculture", available at: http://theconversation.com/australias-five-strong-pillar-economy-agriculture-40388 (accessed 5 October 2016).

Wernerfelt, B. (1984), "A resource-based view of the firm", *Strategic Management Journal*, Vol. 5 No. 2, pp. 171-180.

Williamson, O.E. (1975), *Markets and Hierarchies*, Free Press, New York, NY.

Williamson, O.E. (1985), *The Economic Institutions of Capitalism*, Free Press, New York, NY.

WY and Associate (2009), "Objective assessment of the West Australian beef industry supply chain: Report 1-issue paper", prepared for WA Beef Industry Stocktake Committee, Warwick Yates and Associates.

Xu, J. and Quaddus, M. (2005), "From rhetoric towards a model of practical knowledge management systems", *Journal of Management Development*, Vol. 24 No. 5, pp. 291-319.

Yin, R.K. (2003), *Case Study Research: Design and Methods*, 3rd ed., Sage, New York, NY.

Zikmund, W.G. (2003), *Business Research Methods*, 7th ed., Thomson, South Western.

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