

CHAPTER TWO

CONTRACTUAL RELATIONSHIPS IN AGRICULTURAL SUPPLY CHAINS

2.1 INTRODUCTION

In an ideal world, there would be no need for contracts, as contracting parties would be able to foresee the future exactly and be able to describe it properly and negotiate about it in order to both understand it in the same way. Consequently, they could be able to write their plans down in such a way that a third party could be able to understand the meaning of the agreement in case there is a need to enforce the contract fulfilment (Hart, 1995). However, since that is not the case in the real world, contracts are indispensable in order to reduce the risks inherent in the governance of a procurement process. Milgrom and Roberts (1992) argue that motivation problems arise only because some plans cannot be described in a complete enforceable contract. Macneil (1978) characterised contracts by norms, such as (1) permitting and encouraging participation in an exchange, (2) promoting reciprocity, (3) reinforcing role patterns appropriate to the various kinds of contracts, (4) providing limited freedom for exercise of choice, (5) effecting planning and (6) harmonizing the internal and external matrices of particular contracts.

Contracts in an expanded and incomplete sense, are found everywhere in agriculture and are extremely heterogeneous in form. Simple market specification contracts or future-purchase agreements (typically determining price, quantity, and times of delivery) are common between growers and processor (Sporleder, 1983). However, contract farming or contract production is different from simple multiplicity of marketing or labour contracts. Contract farming involves relationships between growers and private or state enterprises that substitute for open-market exchanges, by linking nominally independent family farmers of widely variant assets with a central processing, export, or purchasing unit that regulates in advance price, production practises, product quality, and credit. The all-encompassing definition of contract farming is the one by Roy (1972) "those contractual arrangements between farmers and other firms, whether oral or written, specifying one or more conditions of production and marketing of agricultural product" (Roy, 1972: 3).

The study draws from new institutional economic theories such as transaction costs and relational contracting theory; behavioural theories such as social exchange theory and equity theory; finally, economic/behavioural theories, which include political economy theory and resource dependence theory.

In marketing literature, exchange relationships have been regarded as discrete, independent transactions that ignored the core of marketing (Dwyer *et al.*, 1987; Morgan and Hunt, 1994; Webster, 1992). Many exchanges in the market were supposed to lead to profit and the objectives were to speed up the transaction and increase the value of the transaction (Webster, 1992). It was until 1980 when Macneil (1980) criticised the view of regarding exchange as discrete and not recognising the importance of relationships between the buyer and the seller.

Macneil (1980) argues that the neoclassic microeconomics assumption of profit maximization is only relevant in the context of discrete exchanges and observed that discrete exchanges are rare in modern marketing exchanges (Weitz and Jap 1995; Sheth and Parvatiyar, 1995). It is worth noting that there is a distinction between discrete exchanges and relational exchanges. Discrete exchanges are separated from everything else between exchange partners before, during and after the exchange (Frazier *et al.*, 1988; MacNeil, 1980). Hence, a discrete transaction is evaluated independent of any preceding and succession transactions. Therefore, they are one time utility-driven exchange of value between parties with no prior subsequent exchange (Webster, 1992; Weitz and Jap, 1995; Morgan and Hunt, 1994). In contrast, a relational exchange is based on the history of previous exchanges and anticipated future exchanges. A relational exchange is not assessed in isolation, but as a continuation of exchanges based on past exchanges (Dwyer *et al.*, 1987). Thus, the relationship of cane growers and millers in the sugar industry should incorporate past experiences and future expectations.

Since relationships in commodity exchange have evolved from business to business, a study of the theories underlying exchange relationships is more relevant for the further development of conceptual and empirical efforts in the supply chain relationship domain. Bennets (1996) argues that a debate on the roots of relationship marketing would benefit its further theoretical development and guide empirical research. The objective of this chapter is to provide a guiding framework for determining contractual constructs most relevant in a supply chain relationship. This chapter reviews literature on the motives for firms to vertically coordinate

their exchange activities with other firms up or down in a supply chain. Different theoretical and empirical studies focusing on the exchange and performance of relationships are part of this chapter. Since the choice of a particular theory implies the choice of a particular construct to be investigated, the review of the literature in this chapter forms the basis for determining which constructs to include in this study.

2.2 SUPPLY CHAIN COORDINATION AND ITS MOTIVATION

Vertical coordination is the alignment, direction and control across segments of a production or marketing system. Vertical coordination can be achieved by vertical integration, which is the direct acquisition and control of segments otherwise linked by open market transactions, or through formal contracts between otherwise independent firms. In a continuum of vertical coordination, there exist open markets or open production at one end, which use price as the primary coordinating mechanism. At the other end of the continuum is complete integration as an exchange arrangement, which provides hierarchical decision-making within a firm to resolve coordination issues across a market (Williamson, 1975). Within the continuum there are several other forms of vertical coordination including relational contracting. Figure 2.1 presents the continuum for vertical coordination. It identifies five major categories of vertical coordination. At one end are the characteristics of “invisible hand” coordination and “managed” coordination on the other. According to Peterson and Wysocki (1997) “invisible” hand coordination allows individual economic actors to follow their self-interests and pursue exchange relationships, which are short term, opportunistic, limited to information sharing, flexibility and preserving the participants’ dependence. “Managed coordination” is built upon mutual interest of the parties involved in the exchange relationship, which is long-term, share benefits, open to information flow, stable, and interdependent. This study is concerned with a mixed type of coordination that falls between the two extremes.

Figure 2.1 suggests that as strategies move from left to right, coordination shifts from being dominated by “invisible hand” through a mix of “invisible hand” and “managed” characteristics to one dominated by managed characteristics. The three strategies in the continuum are characterised by a change in the mechanisms as coordination changes along the continuum. Unlike the spot market, relational exchange involves sharing of risks and benefits emanating from the relationship. In relational exchange the parties agree to work closely

together, but still maintaining their separate identity. The most coordination mechanisms in this strategy are based on mutual control as a result of mutual trust. Relational exchange falls between contracts and vertical integration, and hence it contains characteristics of both strategies.

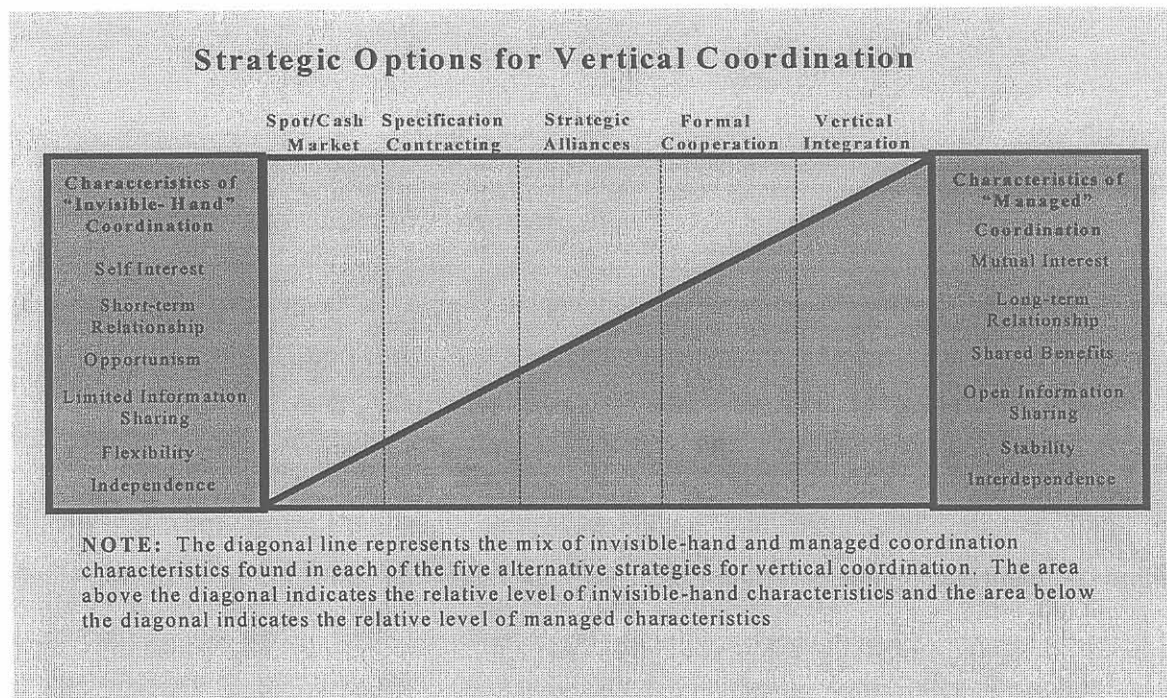


Figure 2.1: The vertical coordination continuum

Source: Peterson and Wysocki (1997)

Mighell and Jones (1963) assert that there is no single theory why firms integrate or coordinate via contracts, instead there are many economic and non-economic considerations used to explain vertical coordination. Among these are reducing risk, uncertainty and costs, improving management, improving market position, gaining bargaining power, developing new technology, and obtaining finance. Barkema (1993), building on Mighell and Jones' (1963) seminal paper, emphasises the need for the food system to quickly adjust to changes in tastes and preferences. Barkema's argument is that the emergence of contracting and integration has created new communication methods that increase the ability to transmit consumer demands to food producers. As a result, markets are shifting from external coordination towards vertically coordinated contracts and integration. Boehlje and Schrader (1998) stress the need for more precise quality control in specially designated products, flow scheduling and capacity utilisation to control costs, reduction of exposure to input and product sales price risks, as well as food safety concerns that strain the ability of spot markets to

coordinate the food chain. As an alternative to the spot market, other options such as contracts are being used. This provides a reason for relationships between supply chain participants like the cane growers and millers to become more personal than in an open market situation.

2.2.1 Factors affecting supply chain coordination

The motivating factors to vertical coordination include transaction costs and these costs factors are; related uncertainty, input supplier concentration, asset specificity, and scale economies (King, 1992; Barry *et al.*, 1992; Frank and Henderson, 1992; Featherstone and Sherrick, 1992). Barry *et al.* (1992) argue that transaction costs must be considered when discussing the motivation for increased vertical coordination. As firms invest in more specific assets and produce more specialised products, they are likely to incur greater opportunity costs if there is a need to use those assets elsewhere. Such transaction costs tend to create a tendency towards more long-term contracting and vertical integration. This is typical of the sugar industry supply chain, which is characterised by asset specificities in terms of machinery, equipment, location and human capital. Sporleder (1992) argues that asset specificity may be viewed as a necessary but not a sufficient condition for vertical integration. He further argues that when asset specificity is part of the firm's situation, managers may consider sourcing through open market, but because of the lack of control against risk or lack of safeguards against quasi rents exploitation and opportunism, they are compelled to vertically integrate. This may provide powerful incentives for entering into contractual or integrated procurement as a substitute for spot markets (Sporleder, 1992).

Lorange *et al.* (1997) identified four main generic motives for firms to enter into contracts: defence, to catch up, to remain or to restructure. A defensive position is normal when the product or business is a core or of importance to the firm's portfolio and where the firm is a leader in the particular business. Such firms want to get into contracts because they want additional access to new competencies, to markets, to technology or to specific resources in order to sustain their competitive advantage over time. For example, sugarcane processing is a core business for the millers in the sugar industry. Thus, contracting out-growers is a means of improving their competencies through low costs of production, since farmers bear all the costs of producing and transporting sugarcane to the mills. The catch-up motive on the other hand occurs when the business is still a core in the firm's portfolio, but more of a follower in

the business segment. The use of contracts in this case should strengthen a firm's competitive position, hence helping it in becoming a leader. The motive to remain in business is a result of a business playing a peripheral role in the portfolio of a firm, but the firm is a leader in its business segment. Therefore, the main motive for a contract in this firm is to remain in business. The contract could also be used to gain maximum efficiency out of a firm's position, given the limited corporate attention a peripheral business can get. Finally, if a firm is a follower in the business area and if the particular business plays a peripheral role in its portfolio, the main motive for a contract is often to restructure the business.

2.2.2 Coordination in agricultural supply chains

Contractual arrangements in poultry, swine, fruits, vegetables, cotton, and sugar industries are examples of vertical coordination achieved through contracting rather than through expanded ownership and control (vertical integration). The question of what is being coordinated arises when one examines the extent and nature of vertical linkages. At the producer first handler level the sources of risk include price, quantity, quality, and timing of delivery (including storage and inventory). For example, sourcing sugarcane from smallholder farmers by millers include managerial decisions regarding the quality of the sugarcane to be processed, the optimal quantity for the mill to process given its complement of machinery, labour, and location, the timing of deliveries to the mill along with the quality control and perishability aspects of the sugarcane. Risk is inherent in all of these decisions and the exchange mechanism chosen for sourcing can directly influence managerial control and firm risk exposure (Sporleder, 1993).

Vertical coordination via production contracts has many advantages. For instance, it reduces many transaction costs otherwise borne by independent farmers and allows for economies of scale in production and marketing. Drawing from the livestock industry, the need to establish separate contracts for each input and output is reduced with contract farming, while in the case of pig and poultry industries the integrated contractor provides the grower with feed, veterinary supplies, and the stock. This suggests that contractors can influence output through their actions (Laura, 1994; Hillburn, 1993). Thus, the modification of the standard principal-agent framework. The price of the commodity is also determined in the production contract. Under a contract farming arrangement, the grower is primarily responsible for providing only the infrastructure and labour. Consequently, the capital outlays of the contractee are also

reduced relative to independent production. The contractor may also assist the farmer in securing a loan for his or her production facility. Finally, since the contract farmer no longer faces input or output price fluctuations, the variability of his income is greatly reduced. However, the farmer is still subject to variation in other input prices such as water and fuel. These advantages make contract farming a more attractive and efficient means of production than independent production (Laura, 1994).

2.2.3 Contracts as means of coordination in agricultural supply chains

The increasing instability in market requirements imposes reactivity and flexibility on agricultural firms and necessitates the development of new organisational forms in the agro-food chains. In this context, the mastery of the produce flows from the supplying areas to the factories and from the factories to the market seems to be the determining factor for efficiency within the supply chain. However, within the supply chain there are various elements that should be taken into account in order to accommodate these changes; for example, industrial capacities, production risks, and diversity of farm structures. Thus, finding organisational solutions that satisfy each firm's objectives and constraints is not that easy. As a result, Solar and Tanguy (1998) point out that it is not easy to design and set up contracts between farmers and commercial firms. The major question, therefore, since joint decision-making by two firms is believed to have a synergistic effect by yielding high profits for a distribution channel (McGurie and Staelin, 1983; Eliashberg and Stainberg, 1987), how then can these joint decisions be induced? How can the different entities within the supply chain system share information and knowledge to improve the relationships? Glover (1987) is emphasised that the relationship between processing firms and growers is a dynamic one, and that firms frequently offer favourable terms to growers in the early stages of an operation in order to attract suppliers, but are unable to sustain those terms in the long run. If a contractual arrangement that was initially favourable to growers deteriorates, farmers tend to be "locked in" by debt, specialisation, relationship specific investment (RSI), or disappearance of other markets. Hence, it becomes difficult to extricate themselves from the situation (Glover, 1987).

Contract farming is an organisational arrangement that allows firms to participate and exert control over the production process without owning and/or operating the farms (Runsten and Key, 1996). Different reasons for contracting suggest different types of contracts and different types of governance structures. Williamson (1979, 1991) identified three classes of

contract law; classical, neoclassical, and relational contracting. Classical contract law deals with definitive contracts. They are complete contracts such as might be traded on an exchange. The emphasis is on legal rules, formal documents and self-liquidating transactions. The neoclassical contract on the other hand involves long-term contracts executed under conditions of uncertainty. The contracts do not cover all contingencies. Since appropriate adaptations will not be evident for many contingencies until the circumstances materialize, therefore to maintain flexibility a range of processes and techniques including arbitration are used to maintain the needed flexibility. Relational contracting encompasses an adjustment process of a more thoroughly transaction-specific, ongoing administrative kind of exchange relationship (Williamson, 1979). The reference point is not only the original agreement, but also the entire relationship between the parties over time; for example contracts between growers and processors.

In a descriptive sense, contract farming as a distinctive labour process is defined by three broad attributes (Watts, 1994). First, a forward market contract for a specific product is agreed to by a grower (who typically controls the means of production and labour power in some way) and a buyer-processor or contractor. There is no presumption that the contractor must be an agent of an international agribusiness. Contractors may be local merchants or the state. Both parties (contractor and contractee) commit themselves to buy and sell at specified volumes and/or hectares, though the completeness, duration, and specificity of the contract vary considerably. Second, a systematic link exists between product and factor markets. Purchase commitments rest in some determinate way on the provision of inputs, services, and supervision to growers who may or may not be organised. Contractually linked markets generate a division of labour and farm management as well as differential forms of autonomy and subordination. There is no presumption of market destination, and hence the crop may be destined for local or foreign markets with or without processing. Third, production price and market risks are subject to differential allocation. Crop-share contracts without price determination share production risk between the contractor and the grower, while in price-specified contracts the grower is bound by a piece-rate system in which he or she bears production risk but none of the price risk (Watts, 1994). Watts argues that contract production presupposes some form of regulation, control, and fashioning of the labour process by the contractor's relations that are practically and ideologically central to the production system. Hence, it represents quite distinctive (if locally varied) social relations of production

in which independent commodity producers are subordinated to "management" through distinctive labour process.

2.3 GOVERNANCE STRUCTURES IN AGRICULTURAL SUPPLY CHAINS

2.3.1 An overview

Mighell and Jones (1963) are traditionally credited for being the first to focus on vertical coordination within agriculture. As they saw it in 1963, agriculture was beginning to witness an economic innovation of organisational design that could impact the industry more than future technological innovations. They called the new organization methods vertical coordination, and included under that term all ways in which the vertical stages of production are controlled and directed. One of the subsets of coordination to be introduced was vertical integration, which they defined as the vertical structure associated with internal coordination where two or more stages of production join together in one firm.

Barry *et al.* (1992) recognised the theoretical developments in governance structures and reviewed the economic organisation and financial structure of agricultural firms with respect to transaction costs, agency relationships, and contracting. They argue that instead of firms trying to capture monopolistic rents, more attention should be paid to agency relationships, contracting, transaction costs, the boundaries of a firm, and the linkages between vertical coordination and a firm's financial structure. They suggest that as vertical linkages expand between participants in the agricultural supply chains, firms will seek to keep agency costs of exchange low in order to ensure business success. These agency costs will be incurred while each firm attempts to structure, administer, and enforce contracts that closely align the interests of both the principal and the agent (Barry *et al.*, 1992).

Coordination of contractual relationships in the presence of specific assets is usually addressed in the literature on vertical integration or long-term contracts, for instance in Klein *et al.* (1978) and Williamson (1985). Existing literature on contracts still has gaps in terms of explaining the stability measures of contractual relationships and stability in this study refers to the frequency with which parties maintain their contracts when alternatives are available. The stability of contracts is more relevant in the case of agricultural supply chains, the reason

being that the agricultural industry is faced with institutional and organisational changes. The issues of food safety and specific quality attributes are more important today than in the past as a result of the institutional environment and institutional arrangements. At the institutional environment level, liability related to consumer rights tends to impose the design of new mechanisms to coordinate the entire supply chain, whilst at the institutional arrangement level contractual relations link different specialised agents throughout the chain. Therefore, processing firms have incentives to cooperate, share common goals and developing specific tacit knowledge in order to assure specific level of product quality supply by producers.

Langlois and Foss (1998) correctly argue that the literature is in agreement with the fundamentals that in addition to production costs, consideration should be made to transaction costs in explaining institutions like the firm, as presented by transaction cost economics (Williamson, 1979, 1985) or the economics of organisation (Milgrom and Roberts, 1992). Langlois and Foss (1998) point out that firms and other institutions are alternative bundles of contracts, which are arguably understood to be efficient mechanisms for creating and realigning incentives. But, transacting itself is loaded with hazards and the problem of organisations is to create governance structures that will constrain the unproductive rent-seeking behaviour due to imperfect information. The main idea is to literally reduce all problems of economic organisation to problems of incentive-conflicts assisted by imperfect information.

The observation of different strategies in the agribusiness industries today is an indication of the growing importance of quality-related aspects, and hence the need to design stable contractual relationships among different and specialised agents in the agricultural supply chains. Agribusiness systems are characterised by a high level of asset specific investments, changing quality standards, food safety concerns, time specifications, specific legislation protecting consumer rights, and environmental awareness. Hence, it makes it more difficult to rely on autonomous adaptations (Zylbersztajn and Farina, 1999; Zylbersztajn, 2001).

2.3.2 The concept of governance

A wide range of governance modes has been described in the literature. A governance structure is an inter-organisational framework within which the integrity of a contractual relation can be decided (Williamson, 1985). When circumstances permit opportunism, a

governance structure should be considered as a means to reduce opportunism to an acceptable level, since total elimination is impossible. Most governance structures impose varying economic or social costs of opportunistic behaviour. In exchange, governance structures have been shown to be critical context variables that shape each party's behaviour, perceptions, and choices in systematic ways (Boyle *et al.*, 1992). The sugar industry in Swaziland established the SSA as a governing body and it is its responsibility to discourage opportunistic behaviour by either cane growers or millers.

Gereffi (1999) defines the governance structures of value chains as authority and power relationships that determine how financial, material, and human resources are allocated and flow within a chain. He distinguishes two main types of commodity chains, the producer-driven and the buyer-driven supply chains. Producer-driven commodity chains are typical of capital and technology intensive industries, where barriers to entry are greatest in production and the development of core technologies:

“Producer-driven commodity chains refer to those industries in which transnational corporations (TNCs) or other large integrated industrial enterprises play the central role in controlling the production system (including its backward and forward linkages)” (Gereffi, 1994: 99)

This is the most characteristic of capital and technology intensive industries like the sugar industry.

Some agro-food industries display the characteristics of producer-driven chains, for example, fruits, vegetables, cotton, and sugarcane. Processing firms of these commodities would source produce from independent growers or use their own farms and plantations, and they would sell their produce through a wide range of outlets. But the responsibility for developing and promoting the product rest with them.

In contrast, buyer-driven chains are governed by companies that market the product other than the ones that make it.

“ one of the main characteristics of firms that fit the buyer-driven model...is that frequently these businesses do not own any production facilities. They are not ‘manufacturers’ because they have no factories. Rather, these companies are ‘merchandisers’ that design and/or market, but do not make the product they sell. These firms rely on complex tiered networks of subcontractors that perform almost all their specialised tasks” (Gereffi, 1994: 99).

Hansen and Morrow (1999) define governance mechanisms as arrangements or policies that boards may use to align the interests of members and the actions of management with the interest of the members; for example, the use of bonus plans, approval policies, human resource policies, and commodity grading systems. They argue that too many governance mechanisms may lead to over-governance, while too few governance mechanisms may result in under-governance. Both over-governance and under-governance may result in misalignment of the members and management interests. Hence, the use of any governance mechanism is crucial to the success of a relationship in trying to meet the desires of the supply chain participants. In the Swaziland sugar industry, the SSA approves and ensures both millers and cane growers adhere to the policies of the industry. The SSA also runs an annual competition for smallholder cane growers, where they give prizes to those farmers who obtain high yields per ha and a high sucrose content. This mechanism encourages smallholder farmers to effectively participate in the sugar industry.

Humphrey and Schmitz (2002) refer to the concept of governance in value chains as the inter-firm relationships and institutional mechanisms through which non-market coordination of activities take place within the supply chain. The co-ordination is achieved through setting and enforcement of product and process parameters to be met by actors in the chain. They argue that the concept of governance is central to supply chains, and hence a chain without a governance mechanism would be like a string of market relations. Governance can be exercised in different parts of the same chain in different ways.

2.4 APPROACHES TO THE GOVERNANCE OF CONTRACTUAL RELATIONSHIPS

2.4.1 Transaction Cost Approach

The transaction cost approach started with Coase (1937) in an article explaining the existence of a firm. Coase points to the costs of using the price mechanism in exchange markets. These costs, referred to as transaction costs, include costs of writing, executing, and enforcing the contracts (Williamson, 1975). He argues that firms are established to minimise these transaction costs of exchange (Rehber, 2000). Williamson (1979, 1985, 1989, 1996) expanded the definition of transaction costs to include the behavioural assumptions of opportunity and bounded rationality of economic agents (Rehber, 2000) and sought to understand how differing governance structures coordinate vertical transactions.

Williamson's approach argues that the adoption of different governance structures is motivated by an attempt to minimise transaction costs, but maximise benefits. The transaction costs approach attempts to predict the characteristics of transactions that firms could vertically integrate at lower costs than relying on open-market governance (McFedtridge, 1994). The transaction costs approach is widely used as a theoretical basis to suggest the existence of the different types of vertical coordination that have developed in the agro-food sector. However, the costs and performance of the different coordinating mechanisms depend in part on the incentives and relationship of the transacting parties (Rehber, 2000). Williamson (1979) referred to the set of institutional arrangements within a transaction as governance structures. The governance structure is a function of three general characteristics of the transaction and the industry. Mahoney (1992) identified these characteristics as (1) asset specificity, (2) task programmability and (3) task separability, while Williamson (1985) classified transactions in terms of uncertainty, frequency and asset specificity⁵.

Those transactions that require an extremely high level of specific investments are termed 'idiosyncratic' transactions. One type of idiosyncratic investment is the requirement to purchase specialised capital in order to produce a particular good. For example, the supplier

⁵ Williamson (1989) identifies four types of specificity; site specificity, physical specificity, human capital specificity, and dedicated assets.

may purchase a specialised asset for production of a uniquely designed product. After purchasing the asset, the supplier becomes locked into a relationship with the buyer because the asset can only be used in the production of the specialised product. The buyer is also locked into a relationship with the supplier because the cost of finding the specialised output elsewhere is high since no other firm is making the needed investment in the specialised asset. Overall, this investment allows the two firms to proceed with the contract renewals and alterations at a faster pace because they understand each other better. Therefore, supply chains with idiosyncratic investments like that of the sugar industry need to feature personal trust in their relationships in order to survive greater stress and display greater adaptability in the business environment.

Williamson (1979) categorised the frequency of transactions and level of specific investments into subgroups. Frequency of transactions was divided into one-time, occasional, and recurrent categories. Investments were described as non-specific, mixed, and idiosyncratic. Because one-time transactions are rarely observed, occasional and recurrent transactions were analysed across all types of investment. In analysing these categories, Williamson found that traditional open markets are the appropriate governance structure for non-specific transactions of both occasional and recurring frequency. With recurring transactions, parties to a transaction only have to decide whether or not to continue their relationship. There is also little transactional cost to switch to an alternative partner since no specific assets are required and the market is full of homogeneous and well-defined standard suppliers. If transactions are only occasional, agents cannot rely on their personal experiences alone to guard against opportunistic behaviour by partners, but they also rely on rating services or the personal experiences of others. In both frequency sections, market alternatives (abundance of suppliers or buyers) guard against opportunism by the counter party. Efforts to sustain a particular relationship are not made because the relation is not independently valued.

When transactions demand mixed or idiosyncratic investments and are occasional in nature, contracting with arbitration agreements is the appropriate governance form. Parties in this situation have a strong desire to see the contract through due to specialised investments already made. If either party reneges on the contractual agreement, the supplier would produce lower value products compared to specialised ones and the buyer would incur higher costs finding a new supplier of the specialised product. Setting up contracts to guard against opportunism in these situations is costly and traditional market governance cannot sustain

those agreements. Therefore, the assistance of a third party (arbitration) is relied upon to settle conflicts instead of legal action. More advanced governance in the form of agreements and coordinated efforts are too costly, since the frequency of transactions is only occasional (Williamson, 1985). For recurring transactions demanding mixed or high levels of transaction-specific investments like the sugar industry, relational contracts and vertical integration are the appropriate governance structures. The non-standard nature of exchange means reliance on open markets is hazardous and their re-occurrence makes it worthwhile to use specialised governance structures. Partnerships and relational contracts are examples of bilateral structures in which the identity of each firm is important (Bryant and Colledge, 2002)

Bilateral structures are assigned where asset specialisation is less than idiosyncratic, but transactions occur frequently. This type of governance may be favoured over complete integration because economies of scale can be achieved through outside suppliers, or greater control over cost of supply can be accomplished. However, problems arise when the transaction has to be adapted or contractual negotiations are made. Since the problems cannot be foreseen, these adaptations must be made by mutual agreement and therein rests the potential for conflict. Both parties want to see the agreement continued when adaptations are needed because they would lose their transaction specific investments in highly specialised capital. However, both firms want to see their individual profit streams being immune to change due to adjustment of a negotiated agreement. In order to successfully accomplish needed adaptations, the parties need to have a way of identifying acceptable dimensions for adjustments. These guidelines include recognising the hazards of opportunism and how it varies by type of adjustment, restricting adjustments to where those hazards are low, and performing adjustments with an attitude that is conducive to a long-term relationship (Williamson, 1979).

As recurring transactions become more idiosyncratic, vertical coordination is more likely. Investments become more specific, and the opportunity cost of using those investments elsewhere decreases. Incentives for trading with a partner tend to decrease and the buyer can recognise the economies of size as easily as the outside supplier. At that point, the question centres on choosing the organising mode with the best adaptive properties. With vertical integration, adaptations can be made without having to consult, mediate, or change inter-firm agreements, where costs of change may be high. Price adjustment is more complete under internal organisation because ownership occurs on both sides of the transaction and joint

profit maximisation can be assumed. Likewise, quantity adjustments can occur at any needed frequency to maximise the joint gain of a transaction. For example, vertical integration of millers as cum-planters as well as processors allows them to adjust to changes in the delivery schedules. For instance, if farmers fail to deliver cane as scheduled, millers are able to supply cane from their own fields in order to keep the mill operating because it is a highly specific investment. Uncertainty is the final dimension of transactions that influences governance structure. Non-specific transactions have little value for continuity since new relations can easily be arranged. Uncertainty does not alter that fact, so open market exchange continues and laws govern all transactions regardless of the level of uncertainty. For mixed or idiosyncratic investments, uncertainty is important because parties have a larger stake in working out mutually agreeable contract terms. As uncertainty increases, vertical integration replaces bilateral governance in recurrent transactions (Williamson, 1981). Table 2.2 shows the features of governance structures for different transaction types.

Table 2.2: Features of governance structures (derived from Williamson, 1981)

Investment type	Frequency	
	Occasional	Recurrent
Non-specific	<ul style="list-style-type: none"> market governance (classical contracting) less reliance on previous experience reputation governed by market 	<ul style="list-style-type: none"> market governance (classical contracting) greater reliance on past experience and relationship that has developed reputation through direct experience
	<ul style="list-style-type: none"> Market alternatives protect each party against opportunism by an opposite Concentrated efforts to sustain the relation are not made because the relation is not independently valued 	
Mixed	<ul style="list-style-type: none"> stronger incentive to see contract through to completion: not so easy to obtain a replacement cost of transaction-specific governance structure is prohibitive but market governance provides no incentive to sustain relationship mechanisms to resolve future disputes are introduced e.g. third party assistance trilateral governance (neo-classical contracting) 	<ul style="list-style-type: none"> greater incentive to sustain the relationship primary reliance on market is unreliable the cost of a specialised governance structure can be recovered bilateral structure where autonomy of the parties is maintained (relational contracting)
Idiosyncratic	<ul style="list-style-type: none"> as mixed occasional there is a transition to a unified structure as the transaction becomes more idiosyncratic 	<ul style="list-style-type: none"> as mixed recurrent but bilateral structure is replaced with unified structure (relational contracting)

Source: Bryant and Colledge (2002)

Though the transaction cost approach has been widely used in explaining vertical coordination, there are still debates whether it is the correct theoretical framework for analysis. The primary concern involves empirical support of the theory. While some empirical investigations have been undertaken, the results have been mixed because transaction costs are hard to identify and measure. Work by Frank and Henderson (1992) and Hobbs (1996) claim support for transaction costs as a reason for certain vertical structures, while others such as Fahlbeck (1996) finds little evidence. Some scholars (Milgrom and Roberts, 1992) and others have attempted to incorporate new assumptions to Williamson's classification and critiqued the classification for oversight (Zajac and Olsen, 1993). Those critiquing transaction costs approach argue that it tends to focus on single transaction as a unit of analysis and it does not focus on the dynamic evolution in the relationships (Heide and John, 1988). Nooteboom (1995) argues that the two gaps in the transaction costs approach are the lack of dynamism and absence of the role of trust, where opportunism is a threat. This is the aspect that will form the main issue for this thesis.

2.4.2 The Agency Theory Approach

The agency theory is an alternative framework for analysing governance structures and control activities. Two main branches of agency theory are identified in the literature; the principal-agent theory (Holmstrom, 1979) and positive agency theory (Jensen and Meckling, 1976). Principal-agent theory is concerned with designing optimal contracts between two parties with organisational form exogenous to the solution (Mahoney, 1992). The majority of principal-agent research centres on developing models under a range of quantitative variables and defining the optimum contract solutions (Sauvee, 1998). The positive agency theory focuses on the organisation and function of the firm, which is defined as a nexus of contracts (Jensen and Meckling, 1976; Zylbersztajn and Farina, 1999). The primary function of the firm is to exploit the advantages of teamwork among its multiple agents, while controlling agency costs. Therefore, the positive agency theory attempts to explain the coordination and functioning of a firm based on a range of variables that include agency costs.

The basic principal-agent problem seeks for the optimal contract, which maximises the principal's expected utility given that; (1) the agent will act in a manner to maximise his utility given the conditions of the contract, and (2) the agent is willing to accept the contract. However, the main impediments in designing a contract include adverse selection and moral

hazard problems. These problems are a result of information asymmetries between the contracting parties. Adverse selection occurs when one party is better informed than the other about the transaction (Sauvee, 1998). An agent with superior information can hide such information decisions and the principal can hardly check if the agent uses his information in a way that best serves the principal's interests. The main challenge is the trade-off between the incentives to work efficiently and the agent's incentive to hide private information. For example, adverse selection would occur if a farmer contracted with a miller for regular deliveries of cane at specific times and knew in advance that he would most likely not be able to deliver all the cane required in a timely manner. The farmer may purposely burn more cane than he is supposed to deliver in a particular week and then report a "run away fire", so that he can deliver more cane than scheduled.

Moral hazard on the other hand refers to the lack of effort, shirking or opportunism of the agent as a result of the task not being completely observed (Sauvee, 1998). The agent's effort to perform the task cannot be monitored or observable by the principal. Hence, the agent has an incentive to provide an inoptimally low effort. The principal wants the agent to provide an optimal effort, thereby increasing the likelihood of a favourable outcome, but effort is a disutility to the agent. For example, a farmer not following an agreed upon management specification while raising sugarcane, such as not weeding and controlling diseases because he minimise production costs, or he may increase his production area beyond the area under contract. The challenge with moral hazard is the trade-off between risk sharing and the appropriate incentive for the agent to provide the optimal effort. Thus, for the risk averse agent, like the smallholder farmers, a high degree of risk sharing implies a welfare loss, while a low risk sharing encourages the smallholder farmers not to perform efficiently (Bech and Pedersen, 2001).

Eisenhardt (1985) depicts the principal-agent problem in terms of measurement and control over the agent's actions. Two situations exist, one with complete information, where the principal can observe the agent's behaviour; and another with incomplete information, where the agent is aware of their own actions, but the principal is not. In the case of complete information, a behaviour-based contract is optimal because the principal is fully aware of the agent's actions. When incomplete information exists, the principal cannot reward the agent based on his behaviour since it was unconfirmed and the agent may shirk. In this case, the agent cannot be trusted to fulfil obligational duties (Eisenhardt, 1985).

Faced with incomplete information, the principal has two primary options. The principal can make investments in behaviour monitoring devices or the principal can reward the agent based on outcomes like profitability. When rewarded on outcomes, an agent may face outcomes not completely dependent on his own efforts. For instance, the principal may make a profit despite poor performance by the agent, or may not make a profit even though the agent performed very well. Where the principal faces incomplete information, the control strategy of the agent becomes a function of monitoring costs and uncertainty.

Generally, the principal-agent theory is criticised for its assumption about information availability to both parties and their capacity to use this information. The principal and the agent may not be aware about the exact state of nature that prevailed in their relationship, but they will always be aware of every state that could conceivably occur in the future and of the relative frequencies of all states (Sappington, 1991). The implication is that it is possible to design a contract that takes all possible states into account and the incentives can be aligned ex-ante, but ignoring ex-post monitoring of contracts. The theory also assumes that parties communicate their assessment of the environment without costs and they can incorporate all anticipated and unanticipated events in their contract.

The principal-agent theory tends to focus on complete contracts, assuming super rationality of parties. It concentrates on an isolated, independent, voluntary bilateral agency relationship and not considering organisational structure. Furthermore, the theory lacks the precise description of the principal in question, whether its commercial or non-profit principal. It just assumes a stereotype type of principal and ignores the necessity of long-term agency relationship. Hence, the transaction cost theory is the most appropriate in analysing contractual relations (Sappington, 1991).

2.4.3 The Resource Dependence Approach

Resource dependence theory focuses on the environmentally driven aspects of organisations. Since organisations cannot generate all of the resources they need, they must depend on their environment (other organisations) for other resources (Powers, 2001). Pfeffer and Salanick (1978) indicated that only 10 percent of an organization's performance is determined by internal factors and the rest is externally motivated. The resource dependence theory holds that goals are not necessarily the driving force behind what happens within organisations.

Pfeffer and Salanick (1978) suggest that organisations alter their purposes and domains to accommodate new interests, sacrificing parts of themselves to avoid some necessary interests and become involved in activities that are far from their stated central purposes. It is believed that instead of changing their structure or strategy in order to meet changing demands, organisations opt to change their goals to accommodate available resources (Powers, 2001).

Resource dependence theorists argue that organisations must rely on other organisations for the resources they cannot provide themselves. In the past, dependence had been regarded as having a negative impact on relationship outcome. However, recent research indicates that a positive impact exists in inter-firm dependence (Johnson, 1999). Positive outcomes, such as technology access, information flows and cost savings can be achieved under relationship dependency. Emerson (1962) described dependence as the extent to which (1) each party's reward or motivation is reliant upon the reward or motivation received by the other party, and (2) the reward or motivation exceeds what would be available outside the relationship.

The lack of self-sufficiency with respect to acquiring and developing resources by firms lead to dependence and introduces uncertainty in the party's decision-making environment (Varadarajan and Cunnigham, 1995). The dependence of one party is somehow tied to the power of the other partner. When one partner controls resources that are needed by the other partner, the latter becomes dependent upon the controlling party (Dwyer *et al.*, 1987; Wilson, 1995). It is argued that dependence exchange partners may wish to regain control and influence their power balance by acquiring and defending a secure and adequate supply of critical resources or by developing substitute sources, which can reduce their dependence (Arndt, 1983). For example, the establishment and maintenance of sugarcane estates by the millers is viewed as one way to reduce their dependence on the out-growers. Hence, they maintain some power over cane growers.

Dependence theory suggest that partners become more dependent upon each other as; (1) outcomes from an exchange become more important (criticality), (2) the magnitude or the proportion of trade with one partner increase (quantity), (3) the business is concentrated with fewer partners (replaceability), and (4) it becomes more difficult to locate potential alternative exchange partners (slack) (Krapfel *et al.*, 1991). According to Heide and John (1992), power dependence theory suggest that an exchange partner's investment in specific assets may constrain its ability to acquire control and may even transfer this control to the receiving

partner. Relatedly, Krapfel *et al.* (1991) argue that resource dependence points at the dangers of increased dependence in terms of increased strategic vulnerability. Thus, improper screening of exchange relationships may leave exchange partners worse off than if they had engaged in looser arm's length relationships. Exchange partners peacefully co-exist and interact cooperatively as long as there is balance of power between them. However, if there is power imbalance, conflicts and dysfunctional conflict become prevalent (Dwyer *et al.*, 1987; Anderson and Weitz, 1989). The power-vested partner will tend to exploit the other partner, and hence the latter will be dissatisfied with the relationship (Anderson and Narus, 1984; Anderson and Weitz, 1989; Ganesan, 1994; Varadarajan and Cunningham, 1995).

Although resource dependence theory is appropriate for many types of interactions, it is based on conflict and use of power. It assumes that goal conflict is inherent in the relationship. However, it has difficulties explaining long-term relationships resulting from co-coordinative behaviour based on trust. Exchange partners can rely on cooperation, collaboration, and coordination instead of power, influence and control. Morgan and Hunt (1994) argue that the presence of relationship commitment and trust is central to successful relationship marketing, but not power and its ability to condition others. Similarly, Weitz and Jap (1995) argue that the use of power as a coordinating mechanism is limited to asymmetric relationships, whereby one party is more powerful than the other. Thus, proponents of transaction cost theory criticise resource dependence theory for its focus on descriptive issues and its failure to examine the efficiency implications of various structural arrangements (Heide and John, 1990). As a result they advocate augmenting transaction cost analysis and descriptive insights from power dependence theory.

2.4.4 Relational Contracting Approach

Relational contract is based on contract law, which applies the legal rights of exchange parties and guides the planning and conduct of exchange relationships. It views exchange as composed of single, independent and static transactions. Though modern contract law tries to incorporate dynamic intermediate and long-term exchanges, it refers to exchange planning and contract information, adjustments to existing contract relationships, and resolution of contractual conflict. It is however, characterised by theoretical inconsistencies in explaining modern exchanges.

Macneil (1980) proposed relational contract as a conceptual framework that is able to capture the dynamics that underlie the nature of exchange relationships as well as the belief that structures and activities are necessary for successful exchange relationships. Macneil distinguished between intermediate types of exchanges, discrete exchanges and complete internalisation of exchanges (Gundlach and Murphy, 1993). They referred to the intermediate forms of exchange as 'contractual ways of exchange' or 'relational transactions' in which the exchange parties are still independent, but at the same time coupled with weak or strong contractual agreements. They argue that pure reliance on the law mechanism can be costly in terms of resources and time, that unforeseen circumstances can affect the exchange relationship and demand extra legal governance mechanisms (Nevin, 1995). In line with this, Macneil (1980) defined the concept of contract broadly, as a relationship between exchange parties who expect to sustain their relationship into the future.

Relational contracting theory describes the types of contracts in terms of the norms they share. Norms are considered as expectations about behaviour that are at least partially shared by a group of decision makers (Dwyer *et al.*, 1987; Heide and John, 1992; Weitz and Jap, 1995). The main property of relational norms is their prescription aimed at maintaining a relationship and their rejection of behaviour, which promote individual goal seeking (Heide and John, 1992) like opportunism. During the exchange process, buyers and sellers tend to establish norms that did not exist before the exchange started (Dwyer *et al.*, 1987). Contracts can either be based on traditional promises of contract law (promissory norms) or more on relation based promises (non-promissory norms). However, Macneil (1980) argued that formal contracts regulated by promissory norms play a minimal role in most relationships, rather it is the set of understandings among exchange partners or the implicit contract guided by non-promissory norms that substantially affects relationships (Anderson and Weitz, 1992).

The relational contracting theory approach seems to address the criticisms of transaction cost theory by incorporating social dimensions of exchange and making clear that hierarchical relationship governance mechanisms are not the only mechanisms available. Although relational contract theory is criticized for its failure to prescribe the optimal types of governance mechanisms to deal with specific characteristics of the exchange, it offers a valuable complement of the transaction cost approach. Hence, this study applies relational contract theory to investigate the role of contractual relationships in the performance of the

sugar industry supply chain in Swaziland. The emphasis is on the relationship between smallholder farmers and the millers.

2.5 A SHIFT IN THE GOVERNANCE STRUCTURES OF AGRICULTURAL SUPPLY CHAINS

2.5.1 From market governance to relational governance

Earlier literature on food chain coordination focused on market coordination, which used the price as a coordinating mechanism. This is the focus of the study by Davis and Goldberg (1957) and the followers at the Harvard School. The literature on contractual coordination applied to agro-food systems replaced the price-based approach, and has since grown steadily both theoretically and empirically. With different degrees of quantitative formalisation the literature discusses the process of industrialisation of agriculture, introduces the classification of coordination based on the degree of control the agriculture industry has over the farmer (Jones, 1971; Sporleder, 1992). Lawrence *et al.* (1997), studying the hog industry in the USA, discuss the relationships between pig farmers and the processing industry. They stress the role of risk and quality as the motivation for governance through contracts. Henderson and Frank (1998) and Barkema (1993) deepen the discussion on contracting by presenting a classification of vertical coordination structure in USA agriculture.

Other authors, such as Menard (1996) and Brousseau and Codron (1997), argue that quality strategies pose two coordination problems, which lead to the shift in governance structures; (1) the need for control over those stages of the productive process that are not operated within the company, and (2) difficulties involved in evaluating the information relevant to the process of purchasing inputs that are needed for production. Therefore, to solve these problems, it becomes necessary for firms like the milling companies to adopt governance structures that; (1) offer greater control over the steps of the cane production process, which are not under the hierarchical command of the mill, and (2) allow for observation and evaluation of the information necessary for the transaction. As a result of quality strategies, millers do not just have to purchase their sugarcane from farmers, but need to get the right quality of sugarcane. This then leads to a series of governance structures that ensure they get

the necessary quality. Zylbersztajn and Farina (1998) referred to this condition as a strictly coordinated supply chain systems.

The convergence of the literature is on the motivation for governance through contracts, as a replacement for governance through markets, as a result of risk management and contractual hold-up in the presence of specific investments. Sporleder (1993) argues that in situations where there are less possibilities of hold-up, weaker control mechanisms need to be considered. This suggests a shift from product to process, then to relations mechanisms, which are characterised by a commercial relationship that assumes equal importance compared to the legal agreement, significant sharing of benefits and burdens, greater interdependence, and bilateral and unified governance. In a similar approach, Soler and Tanguy (1998) discuss the incentives present in the French wine industry. They argue that the common element of the world wine industry is the increasing interdependency between grape growers, wineries, and distributors. This suggests that parties in a contract need to consider a governance structure, that is not only based on the legal agreement, but also on their social relations.

2.5.2 The evolution of relational exchange

The trend towards globalisation, fast technological advancements, and the increasing instability and uncertainty of the competitive and uneven arena contribute to the growth of complex organisations, as well as the environment in which they operate. As a result, organisations have become difficult to manage as both physically and cognitive expertise are required because of relatively scarce resources. In an attempt to secure scarce resources and maintain necessary flexibility to cope with the changing environment, organisations have explored the strategic use of the social structures in which they operate, through the development of inter-organisational relationships (Gulati, 1995, 1998).

Prior to the 1990s management studies were limited in terms of focus, especially on the role of relationships that organisation have with other participants. This resulted in the lack of information on the impact of the interplay the actions of the other players have on the outcomes of the organisations. The limited focus was mainly attributed to two main perspectives; under-socialised and over-socialised views of economic actions, which assume atomisation of participants that logically lead to reduced roles for social structures. While the

under-socialized perspective derives its atomised view from the narrow definition of the participants' goals (in terms of self-interest pursuit), the over-socialised view obtains its atomisation from the assumption that correct behaviour (for a certain actor, with a certain role, in a certain environment) has been internalised by the individual (or organisation), thus leaving little room for the influence of ongoing social relationships (Granovetter, 1985).

As from the 1990s a trend towards relational exchange has been observed. There has been an increase in studies on supply chains and networks (Powel and Smith-Doerr, 1994; Lazzarini *et al.*, 2001). Recently, more attention is paid to the construct of embeddedness, as introduced by Polanyi (1944), but later by Granovetter (1985), who referred to the concept of embeddedness as the degree to which an actor (individual or organisation) is involved in a social system and how, in turn, this level of involvement affects (or is affected by) its behaviour. Many studies focusing on the role of organisational embeddedness in influencing economic action, such as organisational performance and alliance formation, confirm the role of social structure and the degree of embeddedness in determining the performance of an organisation (Granovetter, 1985, 1992; Uzzi, 1996, 1997).

Two views are identified in contractual relationships: the contract-centred view and the relationship-centred view. Opportunism is a key concept in the contract-centred approach (Hakanson and Johanson, 1993; Johanson and Mattson, 1987) and in relational contracting theory (Macneil, 1980; Macaulay, 1963). In the relationship-centred approach the emphasis is on trust as a crucial concept in understanding inter-firm relationships. Heide and John (1992) following Macneil (1980) identified three dimensions of relational exchange: flexibility or willingness to make adaptations, proactive information exchange, and solidarity or high value placed on the relationship. This relationship-centred view takes a cooperative approach towards inter-firm interaction and it centres on the quality of the relationship.

Madhok (1995) suggests two aspects of inter-organisational exchange, the identity of the participants in the exchange and the activities to be coordinated and resources to be exchanged (Hakansson and Johanson, 1993). Johanson and Mattsson (1987) criticised Williamson's TCE for taking a short-term view of inter-organisational exchange and a negative view of human nature. In line with the relationship centred approach, a relationship is a potential asset to be developed over time through interactions. Investment in the relationship process is therefore a form of long-term investment, where cooperation yields

high returns and enables the firm to benefit in future from mutual adaptation (Johanson and Mattsson, 1987).

Granovetter (1985) refutes Williamson's (1975) thesis that institutional form matters are highly relevant in an exchange relationship. He argues that it is the nature and the pattern of interaction in a governance regime as a result of social properties that is the source of efficiency, instead of the intrinsic institutional properties. The main criticism of the contract-centred view is that it concentrates narrowly on economic aspects of exchanges and neglects the social context within which the relationship is embedded.

The pre-occupation with cost minimisation within an exchange relationship tends to devalue the benefits from the relationship and fails to recognise the potential for effective reduction of associated costs through social mechanisms (Madhok, 1995). Although Williamson (1985, 1991, 1996) recognises the importance of social aspects of inter-organisational interaction, he however expresses some reservations about the extent of the importance and under appreciates the value of normative mechanisms (Madhok, 1995). In line with the relationship-centred approach, the sole emphasis on the contract is not adequate to ascertain desirable action by the other partner apart from the minimum action required by the contract. Therefore, there is a need for supplementation by positive atmosphere revolving around trust within which the exchange is conducted. While the contract-centred approach attempts to reduce uncertainty and manages information flow through formal and legal forms of the transaction, the relationship-centred approach attempts to do the same through social processes underlying the transaction (Johanson and Mattsson, 1987).

Madhok (1995) argues that in order to understand inter-organisational relationships, it is useful to view them as having two dimensions; the structural and social dimensions. The structural component refers to the complementarity of the resources contributed and it provides the basis for the exchange and the potential for value creation. The social component on the other hand refers to the intrinsic quality of the relationship itself, which has an impact on the nature of the exchange. Jarillo (1990) argues along the social component that it is neither pure market nor pure hierarchical relations that is critical for sustaining a relationship, but trust. Trust creates a common interest and shared expectations, which then facilitates the tolerance of both partial goals, conflict and temporary periods of inequity within

relationships, since each interaction may not be equally satisfactory to both parties but as long as they are satisfied with the general pattern of the relationship.

Despite many calls for research on organisational forms falling between traditional open markets and complete vertical integration, limited agricultural economics literature exists. The small number of research studies dealing with relational contracting or similar organisations has been mostly qualitative in nature. Researchers have moved towards defining contracting, providing reasons for their existence along the agricultural production and marketing chain, and extracting from the strategic management literature information on how to choose partner firms.

Den Ouden *et al.* (1996) point at specific market and production characteristics of agricultural food chains as additional motives for relational exchange formation. These characteristics include:

- Perishability of many products; variability of quality and quantity of supply of farm-based inputs due to biological variation, seasonality, random factors connected with weather, pests, or other biological hazards.
- Differences in lead-time between successive stages.
- Complementarities of agricultural inputs, meaning that they are available in joint packages only
- Stabilisation of consumption of many agricultural products.
- Increased consumer attention concerning both product and method of production.
- The fact that the internal quality of the raw material is the highest quality attainable for fresh products such as meat, and
- The need and availability of capital, especially at the primary farm stages.

The perishability of fresh produce increases the demand for timely marketing outlets or processing. Therefore, assured market access is imperative to suppliers of perishable products like sugarcane. The existence of capital-intensive production facilities make coordinated and continuous supply inputs necessary to recover costs and differences in lead-time between stages require efforts to match these to each other (Den Ouden *et al.*, 1996).

In most supply chains, each successive stage takes the services and inputs of the previous supplier and reassembles or otherwise adds value to pass on to the next stage, ultimately the final consumer. Therefore, the long-term viability of the relationship depends on the long-term customer satisfaction in the next production level. In the sugar industry, both the miller and the farmer need to be satisfied in their relationship on the basis of cane quality and quantity for the miller and for the grower. It relates to the payment rate, system and risk-sharing performance as well as the overall relationship.

The ability to satisfy partners in an exchange relationship depends in large part on making sure the risks and rewards are present for all partners to have an incentive to make the partnership work. Each partner needs to pursue a mature, long-term orientation towards sharing profits, especially if partners have to share in risk exposure. When the profit sharing is on a long-term basis, a partner's loyalty to serve and drive the overall relationship will be significant (Winter, 1995). Partners should expect a change in the level of control as well, because their actions depend on the other partner. Conflict may result if a partner performing functions in the relationship behaves in an opportunistic manner. Therefore, safeguards in the management of the contract should be established to minimize the incentive for shirking. Winter (1995) argues that the most successful partnerships are those that permit each firm to jointly determine a strategy that: (1) fits the environment and needs of the consumer, (2) requires each firm's distinctive competence, and (3) generates actions that each firm would not be able to do on its own accord.

2.6 GOVERNANCE STRUCTURES AND SUPPLY CHAIN PERFORMANCE

2.6.1 The influence of governance structures on supply chain performance

As a transition towards a global market economy, companies are increasingly focussing on specific high value adding manufacturing niches. Hence, it is common for companies to purchase goods from suppliers. To remain competitive, companies are constantly faced with the challenges of reducing time to market, improving product quality and reducing production costs and lead-times. These challenges cannot be met effectively only by change within specific organisational units but rather through critical dependence on the relationship and interdependencies between different organisations both internal and external to a given firm.

It is often argued that coordination between suppliers and buyers enable potential benefits to both parties involved. Therefore, the welfare of each business entity on the supply chain directly depends in the performance of others and their willingness and ability to coordinate.

The availability of resources is a critical factor in an organisation's ability to produce a product. As a result of this, the relationship a company has with its suppliers is an important contributor to the organisation's performance (Hoyt, 1996). The relationship between a buyer (processor) and a supplier (grower) can take many forms. At one extreme are the arms length single transaction relationships and at the other extreme are the relationships based on vertical integration, where the supplier is an integral part of the processor's organisation. The way an organisation chooses to transact for its inputs is determined by uncertainty in the environment, the investments required in assets, competition in the suppliers' market and the willingness of both parties to assume some level of risks.

Mechanisms for dealing with the inherent risk of transacting across organisational boundaries are effectively explained by transaction costs (Williamson, 1979). Williamson's theory recognises that agreements between organisations will in most cases be subject to risks from opportunistic behaviour, unless the parties are restrained by some form of governance mechanism. The prevalence of uncertainty and asset specificity is viewed as the most important factor in determining the most optimal structure of inter-firm relationships (Walker and Weber, 1984). For example, in competitive markets with low asset specificity, the buyer can easily dissolve the relationship if the supplier fails to meet his obligations. However, if the relationship involves large initial investments and there are few suppliers in the market the agreements will be complex and less flexible. Such agreements involve long-term commitment between the parties and they may inhibit an organisation's ability to respond quickly to market changes in case the agreement cannot be modified easily (Tirole, 1993, as quoted by Hoyt, 1996).

Transaction costs economics suggest that formal contracts between the buyer and supplier should be negatively correlated with performance. This is because, once contracts are drafted, they are not easy to revise. In contrast, informal agreements based on trust and commitments are more easily modified (Hoyt, 1996), thus they are positively related to performance. The ability of companies to enact agreements based on trust involves concepts not easily carried out in a competitive market. Companies that successfully deal with suppliers under social

contracts are likely to sustain efficient exchanges that have good performance. Therefore, governance mechanisms based on trust, commitment and mutual cooperation between processing companies and their suppliers promote better performance under conditions of environmental uncertainty, high asset specificity, and low competition in the supplier's market (Hoyt, 1996), as is the case with the cane growers and millers in the sugar industry supply chain. Supporting this notion, Jick (1992) suggests that boundaries between cooperating organisations can be dysfunctional if they prevent the flow of information or the development of trust. John (1984) on the other hand argues that clan systems and social contracts are alternative ways to opportunism, whilst Heide and John (1990) in their study of alliances in industrial purchasing argue that closer relationships between organisations result in more bilateral governance mechanisms. They found that inter-firm cooperation improved when there was trust and expectation of a continued relationship, idiosyncratic investments by both buyers and sellers and increased verification of the supplier's performance.

Transaction cost theory has shown that governance structures are generally designed to mitigate the costs of transactions by allocating risk (Coase, 1937; Williamson, 1979; Klein *et al.*, 1978). The theory was then extended by Grossman and Hart (1986) who focused on the role of asset ownership in alleviating the hold-up problem in relationships with specific investments. This approach has been employed by Klein and Murphy (1997) and Baker *et al.* (2002) to study the relative advantages between vertical integration and relational contracts in facilitating self-enforcement. Both studies predict that vertical integration will be used when markets are highly uncertain. In essence the studies imply that relational contracts will fail to be self-enforcing if transactors' reputation is not aligned with their short-term incentives (Fan, 2000).

Governance mechanisms are expected to safeguard the performance and continuity of supply chain relationships (to have a positive impact on relationship outcomes). However, it is argued that the strength of a relationship changes as suspicions of opportunism increase between the focal firm and the counterpart. When opportunism is suspected, the relationship is in danger. Bilateral idiosyncratic investments are intended to avert opportunism, but when suspicions arise this mechanism loses some of its potency because the suspicious party may begin to fear for its investments and withhold further cooperation. Trust tends to lose its potency too as a safeguard, but for a different reason. In reaction, organisations will tend to exert influence as trouble arises, thus diluting the impact of relational processes developed

between trusting parties. However, goal congruence is expected to gain potency. This is because the pursuit of compatible ends is unspoken, taken for granted when things are going well. When suspicion arises, goal congruence becomes more relevant. Thus, the parties should be able to appeal to these goals in order to effectively resolve their differences and safeguard the outcomes of their transactions (Lorenzen, 1998).

2.6.2 Contractual relationship outcomes

There are many benefits of exchange, including short and long-term economic, non-economic (strategic) benefits, achievement of competitive advantage, expectation of continued relationship, and joint profit for supply chain participants. Competitive advantages are benefits including strategic advantages gained over competitors. Examples of such benefits include: superior access to resources, decreased supplies and inventory costs, and the development of unique process technologies. These benefits are long-term in nature and enable the participating firms to compete more effectively in the marketplace (Sethuraman *et al.*, 1988). Eventually, these advantages may be reflected in joint profit. However, financial performance and strategic performance are not perfectly correlated. To capture strategic performance, it is necessary to go beyond accounting-based concepts and capture other facets of organisational performance (Pearce *et al.*, 1987).

Joint profit performance results from joint efforts in an exchange. It is not merely a summation of the two firm's individually realisable profits, but indexes of financial outcomes that result from the interdependence of effort and investments that reside within the relationship. The expectation of better joint profits, either through lower costs or high revenues, could be a major motive for long-term relationships (Oliver, 1990) between cane growers and millers.

The firm's expectation of relationship continuity reflects the focal firm's perspective of the long-term viability of the relationship. When a firm expects that the relationship will continue into the future, it is more willing to engage in processes and make investments that will enhance the relationship into the long run (Anderson and Weitz, 1989; Heide and Miner, 1992). Although confidence in the future of the relationship is not a performance outcome, it is important since without it the firms adopt a short time horizon, and refuse to engage in activities which do not pay off quickly and with certainty (Williamson, 1993).