THE ROLE OF TRUST IN THE PERFORMANCE OF SUPPLY CHAINS: A DYAD ANALYSIS OF SMALLHOLDER FARMERS AND PROCESSING FIRMS IN THE SUGAR INDUSTRY IN SWAZILAND

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Abstract

The purpose of this paper is to investigate the role of trust in the performance of the sugar industry supply chain in Swaziland. The study utilized perceptions of 124 smallholder cane growers in the sugar industry in Swaziland. Items presented in a Likert type scale were used to measure cane growers' trust in the millers. Descriptive statistics involving cross tabulation were used to determine the impact of trust on the performance of the cane growers, which in turn has an influence on the performance of the whole sugar chain. The results indicate that farmers who have trust in the millers perform better than those without trust, and hence they contribute to the performance of the whole chain, in terms of more and good quality sugarcane supplied to the mill. This implies more sugar production and increased income to the industry as a whole. The results imply that a relationship founded on trust and mutual respect is more likely to succeed than a relationship of convenience supported by legal contingencies. Therefore, there is a need for honesty, fairness and absence of opportunistic behaviour between millers and cane growers for the industry to improve its performance.

1. INTRODUCTION

In business practice, firms frequently make deliberate attempts to establish stronger relationships with suppliers and customers. Many firms are moving away from traditional "arm's length" business relationships and are forging closer and more collaborative ties with supply chain partners as a way to reduce costs, increase efficiency, improve quality, and enhancing competitive advantage. Spekman (1988:75) argues that "competition from offshore producers, technological innovations, and shortened product life cycles have changed buyer-seller relationships. Traditional arms length contractual relationships no longer suffice, but closer collaborative approaches are

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needed". Anderson and Weitz (1989) argue that the development of inter-organisational relationships is an approach that combines the advantages of vertically integrated distribution systems (control, coordination and information processing) with the advantages of systems utilising independent chain participants (flexibility, scale economies, efficiency and low overheads). However, inter-organisational relationships come with associated costs and risks. Smallholder farmers like those in the sugar industry are generally considered to be dependent and vulnerable in such relationships because of significant resource inequalities, opportunism and the abuse of asymmetric power advantages to expropriate proprietary assets and obtain concessions from the other partner (Williamson, 1985).

The use of contracts to govern transactions between supply chain partners limits the behaviour of the parties substantially, by reducing their flexibility and not allowing them to benefit from market changes. This study proposes that the development of relational exchange between supply chain participants is an appropriate strategy for smallholder farmers. This is even more rewarding when undertaken under appropriate facilitating conditions. These can be created by social control mechanisms like trust and cooperation. The purpose of this article is to investigate the role of trust in the performance of the sugar industry supply chain in Swaziland. A supply chain is conceptualised as a series of connected activities concerned with planning, coordinating and controlling the production of sugar, starting with the production of sugarcane by farmers, through processing by the millers and finally to the consumer. Thus it can be broken down into units, beginning with the cane growers who provide sugarcane to millers, who then process it into sugar and pass it on to the Swaziland Sugar Association, which then markets it on behalf of both farmers and the millers.

The remainder of the article is organized as follows. Section 2 provides the theoretical and conceptual framework by reviewing the literature on trust and exchange relationships. Section 3 presents the study objectives, while Section 4 presents the data collection and methods. The results of the study are discussed in Section 5. Lastly, Section 6 provides the conclusions and managerial implications drawn from this study.

2. THEORETICAL AND CONCEPTUAL FRAMEWORK

2.1 The concept of trust

Trust is considered to exist if one party believes that the other party is honest or benevolent (Doney & Cannon, 1997). It is the expectation that attenuates the suspicion that one party in the transaction will behave opportunistically (Gulati, 1995; Bradach & Eccles, 1989). Thus, if trust exists in a relational contract, the contracting parties will be convinced that they will not be victims of behaviour such as adverse selection, moral risk, hold-up or any type of contractual hazard.

Sako (1998) identified three types of trust. These include contractual trust, competence trust and goodwill trust. Contractual trust rests on a shared moral norm of honesty and promise keeping, while competence trust requires a shared understanding of professional conduct, technical and managerial standards. Goodwill trust can exist when there is consensus on the principle of fairness. She argues that there is a hierarchy of trust whereby fulfilling a minimum set of obligations constitutes contractual trust, while honouring a broader set constitutes goodwill trust. Therefore, a movement from contractual trust to goodwill trust involves a gradual expansion in the congruence of beliefs about what is acceptable behaviour. Other types of trust are described by Faulkner, 1995; Gulati, 1995 and Medina-Munoz and Medina-Munoz, 2002.

2.2 Sources of trust

Humphery and Schmitz (1998) identified three sources of trust, namely institution-based trust, meso-level characteristic-based trust, and processed-based trust. Institutional based trust involves the use of institutional factors that can act as support for trust. It is generated by confidence in the 'formal structures' of society and more importantly in their ability to impose sanctions when trust is breached (Lane & Bachmann, 1996; Humphery & Schmitz, 1998). Examples of institution-based trust include the legal system and trade associations. Meso-level characteristic-based trust is trust based on the characteristics or reputation of the transacting parties. Here group membership serves as an indication of trustworthiness, as is reputation. Trust derived from experience of co-operative interaction is referred to as processed-based trust. This form of inter-firm trust is built incrementally as firms repeatedly interact (Nohria & Gulati, 1996).

2.3 Trust as an economic asset

Generally, an asset is a resource that creates benefits for a firm while the value of an asset is measurable and it loses value (depreciates) over time. Assets also have an opportunity cost and can complement or substitute for one another (Wilson & Kennedy, 1999). Welsch *et al* (1976) as quoted by Wilson and Kennedy (1999) argue that even unidentifiable intangible assets such as goodwill can be purchased, amortized, and sold. They point at reputation as one determinant of goodwill. Such reputation may be valued with other contributors to goodwill as the present value of the expected future earnings of the firm. Dasgupta (1988) uses game theory to illustrate the economic value of trust. He argues that trustworthiness is similar to other assets such as knowledge and information. Trust is of economic value because it allows agents to initiate and maintain cooperation without safeguards (Lorenzen, 1998).

Trust is considered to be of economic value when it is based on non-contractual, rather than contractual mechanisms. Non-contractual trust such as goodwill eliminates the need for formal contracts, which are costly to write, monitor, and enforce (Dyer, 1997) and thus it reduces transaction costs. For example, in conditions of high trust, transactors spend less time and resources on ex-ante contracting because they trust that the pay-off will be divided fairly. Thus, there is no need for future contingencies (Dyer, 1997). Trusting parties spend less time and resources on monitoring to see if the other party is not shirking or is fulfilling the spirit of the agreement. This is because parties have confidence that each party will not take advantage of the other even when there is a chance to do so. In addition to reducing transaction costs, trust also enable participants in an exchange relationship to share important confidential information and encourage them to make relationship-specific investments, which in turn enhances productivity in the exchange relationship without fear of opportunism (Parkhe, 1993; Dyer, 1997).

2.4 Trust as a governance mechanism

Recently, it has been recognised that the role of trust goes beyond just complementing incomplete contracts, but that it can actually play an effective role as a governance mechanism (Sako, 1998). Macaulay (1963) introduced an alternative view to the neoclassical theory of contracts. He maintains that the importance of law in contractual relations has been vastly overstated and he argues that economic agents construct productive relationships mainly without reference to the legal system (MacNeil, 1985). They use a variety of purely private mechanisms such as personal trust, calculative trust, reputation and constructed mutual dependence. The main issue between the relationship governance through legal institutions and trust lies in the relative roles of trust and law in promoting cooperation (Deakin, Lane & Wilkinson, 1997).

Sociologists such as Grief (1996) and Granovetter (1985) argue that relationships are embedded in a broader social structure. Therefore, social or network relations affect the nature of interactions between traders and they provide powerful enforcement mechanisms when a potential for dispute exists (Galanter, 1974). The classical contract law argues for comprehensive contracting, in which society is regarded as being composed of isolated, self-interested individuals and only contract law supplies the needed glue to hold individuals to their bargains (Macaulay, 1963). However, this kind of contracting is an unrealistic description of relationships as well as the legal practice of contract. This is because businesses rarely resort to legal remedies and even when they do, they find that contract law is not interpreted according to classical law principles, which assume that parties structure complex contracts and rely upon legal rules, standards, and remedies implied in the law to protect themselves against opportunism. This has since led to the challenge of classical contract law by several sociologists, for example, Lewis and Weigert (1985) and Campbell and Harris (1993). MacNeil (1980) argues that the classical law of contract views exchange as discrete one-time event, whereas many modern exchanges involve more complex association. The practice in commercial exchange is that trusting and cooperative relations are the norms because the majority of businesses do not engage in "single games" (Antle, 1984) or in discrete contracting (Macaulay, 1963). Therefore, such norms are also considered when there are disputes between exchange partners.

2.5 Trust and supply chain performance

Several empirical studies which acknowledge the contribution of the New Institutional Economics (NIE) to supply chain relation, suggest that the main factors influencing efficiency in supply chain include informal elements. Such as trust, norms or standards that support exchange relations irrespective of contractual obligations, and authority relations that are exerted throughout the supply chain by those who have superior power in relation to the market or information (Cullen & Hickman, 2001). Ramdas and Spekman (2000) used six variables that reflect different approaches to measuring supply chain performance. These included inventory, time, order fulfilment, quality, customer focus, and customer satisfaction. Their results indicate that authority balance is positively related to alliance performance. The more one partner controls the alliance through authority advantage, the greater the likelihood that the alliance would perform poorly. The interaction between trust and authority shows that the existence of trust affects the relationship between authority balance and performance. In the case of the relationship between authority balance and performance, it is shown that trust dampens the positive relationship. So, for example, trust and authority balance serve somewhat as proxies for each other in the prediction of relationship performance. Where a firm can trust its partner, the balancing of authority is not as critical for enhancing performance. Teegen and Doh (2002) concurring with Ramdas and Spekman (2000) conclude that trusting relationships are perceived to promote alliance performance and that the presence of authority advantage has a negative effect on alliance performance, which is further worsened by the absence of trust.

Milford (2002), in a study of the state of the value chain in the Australian sugar industry, found that millers perceive the level of trust between millers and growers to be better than the perceptions of growers and harvesters. Milford attributed the perception of lack of trust by growers and harvesters to the poor performance of the industry in the past, individualism on growers' part and perceived power and information imbalances. Relatedly a study by Medina-Munoz and Medina-Munoz (2002) on the role of trust in inter-organisational relationships' control and success found that all the different types of trust used in the analysis were positive and significantly associated with the success of the relationship between tour operators and accommodation companies. This suggests that trust is associated with the success of the relationship.

Tregurtha and Vink (1999), in a study of trust and supply chain relationships using a case study of the South African Breweries (SAB) and the Taung barley project, found that the efficiency of barley production in Taung determined whether the trust relationship between the farmers and SAB would continue. They argue that trust cannot make an economically bad relationship good, but it can make a good relationship better. SAB emphasised that sound economic principles determine the long-term future of their involvement with the farmers. Similarly, the small-scale farmers who are involved in this supply chain indicated that they would only continue to produce barley as long as it represented the most profitable allocation of their resources, subject to their low risk preference. They pointed out that the trust alliance they have with SAB raises their net profit margin because it reduces their transaction costs. However, the scope for cost reduction is limited and cannot compensate for inefficient resource use. These findings imply that trust is a result of the benefits the individuals realise in the relationship. However, the study was qualitative in nature, hence it lacked a measure of the quantitative importance of trust in the relationship.

Morgan and Hunt (1994) argue that trust and commitment are important factors if a company is going to succeed with its relationship marketing. They conclude that trust is positively affected by shared values and communication among supply chain partners, but negatively affected by the presence of opportunistic behaviour. They viewed shared values as the extent to which the trusting parties' goals, behaviour and way of work are congruent. In their view, communication is the extent to which information is shared between the parties, whereas opportunistic behaviour refers to the degree at which parties seek individual gain. Morgan and Hunt's results correspond to their model. They found that the presence of trust in a relationship has a positive effect on commitment, cooperation and functional conflict, and a negative effect on uncertainty. Considering Morgan and Hunt's findings, it is clear that they were dealing with relational trust.

A study by Moore (1998) aimed at understanding the importance of relations within logistic alliances also studied the concept of trust in relationships. The study assumed that equity is important for the development of trust, where equity implies the sharing of benefits and burdens. This assumption that equity is an important factor for the creation of trust was supported by Moore's empirical findings.

Doney and Cannon (1997) examined how trust emerges and the impact of trust on buying behaviour in business-to-business relationships. Two kinds of trust were studied and they involved trust between the customer and the selling company as a whole and trust between the customer and front-line employees of the selling company. Doney and Cannon assumed that customers that trust companies as a whole are dependent on calculus factors such as the selling company's image and size. The logic to trust front-line personnel is different for different customers. Therefore, trust in this context depends on emotional factors such as social contact, similarity between parties and mutual affections, but also on harder factors like power and expertise.

Scholars in chain relationships increasingly acknowledge the role of interpersonal factors such as trust on inter-firm outcomes. Larson (1992), studying the governance of exchange relationships found that personal relationships and reputations, coupled with knowledge of the firm's skills and capabilities, shape the context of new exchanges between firms by reducing risks and uncertainties about the motives and intentions of the other firm. Several studies suggest that interpersonal trust operates in an independent, yet complementary manner to many organisational variables (Andaleeb, 1992; Anderson & Narus, 1990). For example, it facilitates relational processes such as collaboration and relational norms, but has limited impact on performance (Moorman, Zaltman & Deshpande, 1992). However, empirical results suggest that interpersonal trust is capable of safeguarding joint competitive advantages against varying levels of ex-post opportunism. Thus, adverse effect of opportunism suspicions may be limited to less tangible relational outcomes, such as expectations of continuity and evaluations of an exchange counterpart.

3. OBJECTIVES

This study is concerned with the relationship of smallholder cane growers and the millers in the sugar industry supply chain in Swaziland. It attempts to identify and analyse the importance of relational factors in the performance of supply chains. The study focuses on the role of trust on the performance of the exchange relationship of smallholder cane growers and the millers in the sugar industry supply chain in Swaziland and hence the performance of the whole supply chain.

4. DATA AND METHODS

The study used data collected in 2001 from a sample of 124 smallholder cane growers who supply sugarcane to the three sugar mills in Swaziland (Simunye, Ubombo (Bigbend) and Mhlume) and with a maximum land size of 100ha per farmer. In addition to individual farmers, the respondents included representatives of farmers' association. Data were collected by means of personal interviews using a structured 4-point Likert-type scale, where 1 was equal to strongly disagree and 4 equal to strongly agree (see Appendix A for items used to measure trust).

The most important criterion in selecting a sample is to increase the validity of the collected data (Carmines & Zeller, 1988). In this study the data selection criterion was designed to increase validity, rather than to ensure that the sample was representative of the given population. Therefore, the study used purposive sampling, which is most desirable when certain important segments of the target population are intentionally represented in the sample. The sample incorporated 10% of members from those farmer associations with farmers operating individually. A farmer was only interviewed if he/she had sold sugarcane to the mill at least once. Those farmers who had not yet sold sugarcane to the mill were not included in the sample. Purposive sampling is a deliberate non-random method of sampling, which aims to sample a group of people or settings with a particular characteristic such as where they live in society, or specific cultural knowledge. The power of purposive sampling lies in selecting information-rich cases for study, where information-rich cases i.e. those that provide a great deal of insight into the issues of central importance to the research (Patton, 1990).

5. RESULTS AND DISCUSSION

5.1 Farmers' trust and perceptions of their relationship with millers

Trust is regarded as an important asset in an exchange relationship between supply chain members like the cane growers and millers. Its importance is rooted in the belief that it leads to desirable attitudes of commitment and that it reduces transaction costs associated with monitoring and providing safeguards in an exchange relationship.

Table 1 compares the perceptions of the farmers who trust the millers and those who do not trust them. The results indicate that almost all respondents who trust the millers (98.6%) and those who do not trust the millers (98.1%) are certain about their relationship with the millers. Almost all respondents who do not trust the millers (96.2%) and all those who trust the millers (100%) indicated their commitment to their relationship with the millers. The perception by farmers of lack of cooperation by the millers is evident in both farmers who trust as well as those who do not trust the millers. More than three-quarters (84.9%) of the farmers who do not trust millers and about two-thirds (62.0%) of those who trust millers expressed a perceived lack of cooperation in their relationship with the millers. Both farmers who trust and those who do not trust millers perceived dependence on the millers. More than half (56.6%) of the respondents without trust and more than three-quarters (77.5%) of those who trust perceive that farmers are dependent on the millers. The results also suggest that more than three-quarters (88.7%) of farmers who do not trust the millers and 77.5% of those who trust millers feel that farmers are influenced by millers. About ninety percent (90.6%) of those farmers who do not trust millers and 59.2% of those who trust them, perceive that millers exercise opportunistic behaviour towards farmers. The majority of those who trust (91.5%) and those who do not trust millers (64.2%) are satisfied in their relationship with the millers.

Collectively, the results suggest that more of those farmers who trust millers than those who do not trust are certain of their relationship with millers, are committed to the relationship, are dependent on the millers and are satisfied with their relationship with the millers. On the other hand, more of those farmers who do not trust millers than those who trust them perceive that there is no cooperation between farmers and millers, farmers are influenced by millers, and that millers behave opportunistically. The results show the importance of trust in an exchange relationship.

Table 1: Farmers' trust in millers and their perceptions of their relationship

Item	Respondents without trust (N=53)	Respondents with trust (N=71)	Total respondents (N=124)
Uncertain	1 (01.9)	1 (01.4)	2 (01.6)
Certain	52 (98.1)	70 (98.6)	122 (98.4)
No commitment	2 (03.8)	0 (0)	2 (01.6)
There is commitment	51 (96.2)	71 (100)	122 (98.4)
No cooperation	45 (84.9)	44 (62.0)	89 (71.8)
There is cooperation	8 (15.1)	27 (38.0)	35 (28.2)
No relative dependence	23 (43.4)	16 (22.5)	39 (31.5)
There is relative dependence	30 (56.6)	55 (77.5)	85 (68.5)
No Influence by miller	6 (11.3)	16 (22.5)	22 (17.7)
There is influence by miller	47 (88.7)	55 (77.5)	102 (82.3)
No opportunistic behaviour	5 (09.4)	28 (39.4)	33 (26.6)
There is opportunistic behaviour	48 (90.6)	42 (59.2)	90 (72.6)
No satisfaction	19 (35.8)	6 (08.5)	25 (20.2)
Satisfaction	34 (64.2)	65 (91.5)	99 (79.8)

It is a common phenomenon that the element of trust in relationships is linked to economic benefits. In most cases people who realize economic benefits in their relationship are likely to have developed trust in that relationship. Table 2 presents the results of the respondents who trust millers and those who do not trust millers with their perceptions on profit. The results show that nearly all the farmers (94.2%) who trust the millers have indicated that they make a profit from the sale of sugarcane. About three quarters (72.3%) of those who do not trust the millers also indicated that they make a profit. The results suggest that both farmers who trust and those who do not trust the millers realize economic benefits from their relationship with the millers. However, more of those who trust millers compared to those who do not trust them indicated that they make a profit in sugarcane production. This indicates the importance of trust in enhancing economic benefits.

Table 2: Trust and profit making

Item	Respondents without trust (N=47)	Respondents with trust (N=69)	Total respondents (N=116)
Not making profit	13 (27.7)	4 (05.8)	17 (14.7)
Making profit	34 (72.3)	65 (94.2)	99 (85.3)

5.2 Farmers' trust and duration of relationship with millers

Normally the level of trust between exchange partners is expected to improve with time, especially processed based trust as a result of continued cooperative interaction. Therefore, the level of trust in a relationship is expected to be higher as the period of relationship engagement increases. However, the results in Table 3 show a negative relationship between the number of years in the farmers' exchange relationship and their trust in the millers. More than half (57.7%) of the farmers who trust millers have less than 10 years in sugarcane farming, while 61.2% of those who do not trust millers have more than 10 years in sugarcane farming. This could be attributed to unpleasant experiences of these farmers with millers in the past, such as uneven distribution of proceeds from the sugar industry. It should be noted that whist it can take time for individuals to develop trust, the same trust may be lost within a short time if the other person in the exchange show signs of untrustworthiness and opportunistic behaviour, which may be the case with the farmers and the millers.

Table 3: Duration of relationship and farmers' trust in millers

Item	Respondents without trust (N=49)	Respondents with trust (N=71)	Total respondents (N=120)
Less than 10 years	19 (38.8)	41 (57.7)	60 (50.0)
More than 10 years	30 (61.2)	30 (42.3)	60 (50.0)

6. CONCLUSIONS AND IMPLICATIONS

It may be argued that organisations establish more straightforward, lasting and confidential relationships if they have constructed formal institutionalised procedures to further their cooperation. However, it is important to note that a contract works on compliance, while relational exchange requires trust and commitment. A relationship founded on trust, mutual respect is more likely to succeed than a relationship of convenience supported by legal contingencies. Therefore, relationships characterised by trust between smallholder cane growers and millers is more important for mutual benefit and good quality relationship. The results in this study support previous studies, which advocate for relational contracting in agricultural supply chains. This study has shown that trust is important in enhancing the performance of members of a supply chain, and hence the whole supply chain.

Both smallholder cane growers and millers need to understand that trust cannot be created easily. It is not a simple factor that can be regarded as separate from other preconditions of an exchange. Therefore, there is a need for (1) directness (openness, honest and effective communication and providing explanations and justifications for actions); (2) continuity (frequency of communication, taking time to explain and investing time in the relationship); (3) multiplexity (understanding each party, their roles and responsibilities); (4) parity (fairness, impartiality, not acting opportunistically, integrity, good intentions and honouring promises); and (5) common interests and diversity (shared values, purpose and vision, setting expectations, successful handling of problems, reconciliation). Overall, the smallholder cane growers and millers need to practice fairness, have integrity, ensure effective communication, have commitment and shared purpose or values which are realistic to their situations.

REFERENCES

ANDALEEB SS (1992). The trust concept: Research issues for channel of distribution. *Research in Marketing* 11:1-34.

ANDERSON E & WEITZ BA (1989). Determinants of continuity in conventional industrial channel dyads. *Marketing Science* 8:310-323.

ANDERSON JC & NARUS JA (1990). A model of distributor firm and manufacturer firm working partnerships. *Journal of Marketing* 54(1):42-58.

ANTLE R (1984). Auditor independence. *Journal of Accounting Research* 22(1):1-20.

BRADACH JL & ECCLES RG (1989). Price, authority and trust: From ideal types to plural forms. *Annual Review of Sociology* 15:97-118.

CAMPBELL D & HARRIS D (1993). Flexibility in long-term contractual relationships: The role of co-operation. *Journal of Law and Society* 20(2):166-191.

CARMINES EG & ZELLER RA (1988). *Reliability and validity assessment*. Beverly Hills: Sage.

CULLEN PA & HICKMAN R (2001). Contracting and economics alliances in the aerospace sector: Do formal contact arrangements support or impede efficient supply chain relationships? *Technovation* 21(7):525-533.

DASGUPTA P (1988). *Trust as a commodity*. In: Gambetta D (ed), Trust, making and breaking co-operative relations, pp 49-72. Oxford, New York: Basil Blackwell.

DEAKIN S, LANE C & WILKINSON F (1997). *Contract law, trust relations and incentives for co-operation: A comparative study*. In: Deakin S & Michie J (eds), Contracts, co-operation and competition: Studies in economics, management and law, pp 105-139. Oxford: Oxford University Press.

DONEY PM & Cannon JP (1997). An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing* 61(2):35-51.

DYER JH (1997). Effective interfirm collaboration: How firms minimize transaction costs and maximize transaction value. *Strategic Management Journal* 18:535-556.

FAULKNER D (1995). *International strategic alliances*: *Co-operating to compete*. London: McGraw-Hill Book Company.

GALANTER M (1974). Why the 'haves' come out ahead: Speculations on the limits of legal change. *Law and Society Review* 9(1):95-160.

GRANOVETTER MS (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology* 9(3):481-510.

GREIF A (1996). *Contracting, enforcement, and efficiency: Economics beyond the law*. In: Bruno M & Pleskovic, B (ed), Proceedings of the Annual World Bank Conference on Development Economics. The World Bank, Washington DC, pp 239-265.

GULATI R (1995). Does familiarity breed trust? The implications of repeated ties for contractual choice alliances. *Academy of Management Journal* 38(1):85-112.

HUMPHERY J & SCHMITZ H (1998). Trust and inter-firm relations in developing and transition economies. *Journal of Development Studies* 34(4):32-61.

LARSON A (1992). Network dyads in entrepreneurial setting: A study of the governance of exchange relationships. *Administrative Science Quarterly* 37:76-104.

LEWIS JD & WEIGERT A (1985). Trust as a social reality. *Social Forces* 63(4):967-985.

LORENZEN M (1998). *Information cost, learning and trust: Lessons from co-operation and higher-order capabilities amongst geographically proximate firms*. DRUIP Working Paper No 98-21, Aalborg: Aalborg University.

MACAULAY S (1963). Non-contractual relations in business. *American Sociological Review* 28:55-69.

MACNEIL IR (1978). Contracts: Adjustment of long-term economic relations under classical, neoclassical, and relational contract law. *Northwestern University Law Review* 72(6):854-905.

MACNEIL IR (1980). *The new social contract: An inquiry into modern contractual relations*. New Haven, CT: Yale University Press.

MACNEIL IR (1985). Relational contract: What we do and what we do not know. *Wisconsin Law Review* 3:483-525.

MEDINA-MUNOZ RD & MEDINA-MUNOZ DR (2002). *The role of trust in inter-organizational relationships' control and success*. A paper presented in the European Academy of Management Conference, 9-11 May, Stockholm.

MILFORD BJ (2002). *The state of value chains in Australian sugar industry*. CRC Sugar Occasional Publication, Townsville.

MOORE KR (1998). Trust and relationship commitment in logistics alliances: A buyer perspective. *International Journal of Purchasing and Materials Management* 34(1):24-37.

MOORMAN C, ZALTMAN G & DESHPANDE R (1992). Relationships between providers and users of market research: The dynamics of trust within and between organizations. *Journal of Marketing Research* 29(3):314-329.

MORGAN RM & HUNT SD (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing* 58:20-38.

NOHRIA N & GULATI R (1996). Is slack good or bad for innovation? *Academy of Management Journal* 39:1245-1264.

PARKHE A (1993). Strategic alliance structuring: A game theoretic and transaction cost examination of inter-firm cooperation. *Academy of Management Journal* 36:794-829.

PATTON MQ (1990). *Qualitative evaluation and research methods*. Beverly Hills, CA: Sage Publications.

RAMDAS K & SPEKMAN RE (2000). Chain or schackles: Understanding what drives supply chain performance. *Interfaces* 30 (4):3-21.

SAKO M (1998). *Does trust improve business performance*? In: Lane C & Backman R (eds), Trust within and between organizations: Conceptual issues and empirical application, pp 88-117. Oxford: Oxford University Press.

SPECKMAN RE (1988). Strategic supplier selection: Understanding long-term buyer relations. *Business Horizons* 31:75-81.

TEEGEN HJ & DOH JP (2002). *US/Mexican business alliance negotiations: Impact of culture on authority, trust and performance*. Working paper series, Centre for Latin American Issues. The George Washington University, Washington, DC.

TREGURTHA NL & VINK N (1999). Trust and supply chain relationships: A South African case study. *Agrekon* 38(4):755-765.

WELSCH GA, ZLATKOVICH CT & WHITE JA (1976). *Intermediate accounting.* Homewood, IL: Richard D Irwin, Inc.

WILLIAMSON O (1985). *The economic institutions of capitalism.* New York: The Free Press.

WILSON PN & KENNEDY AM (1999). Trustworthiness as an economic asset. *International Food and Agribusiness Management Review* 2:179-193.

APPENDIX A

Table A1: Items measuring trust

1. The mill's decisions are meant to benefit both growers and the mill (trust1)
2. The mill treats cane growers with care (trust2)
3. There is a mutual understanding between the mill and the cane growers (trust3)
4. The mill can be relied upon for its technical ability (trust4)
5. The mill sometimes withholds some information that may be useful to cane growers (trust5R) (R)
6. The mill cheats on farmers (trust6R) (R)
7. One has to monitor and double check whatever information the mill gives to cane growers (trust7R) (R)
8. You sometimes think of quitting sugarcane farming (Rpleave1) (R)
9. The way farmers are treated by the mill one thinks of changing the mill (Rpleave2) (R)

R = reversed coding (The responses to these items were reversed before the analysis was conducted, i.e. responses such as 1 and 4 were switched over, and 2 and 3 were also switched over).