

## CHAPTER SEVEN

### SUMMARY AND CONCLUSIONS

#### 7.1 INTRODUCTION

The purpose of this study was to investigate the role of contractual relationships in the performance of the Swaziland sugar industry's supply chain. This study explored the factors affecting the quality of contractual relationship between smallholder cane growers and millers and its impact on the performance of the smallholder cane growers, and hence the performance of the sugar industry supply chain in Swaziland.

Considerable research and development capacity of both the state and large-scale sectors had in the past been orientated towards large-scale farmers focusing on industrialisation. As a result emphasis was on maximising production through increased inputs. Policy is now being orientated in favour of the commercialisation of smallholder farmers; however, researchers and institutions often lack the skills, experience or inclination for this new orientation. Most are still embedded in a high input/output paradigm and understand the task as one of adapting and transferring large-scale farming technologies to smallholders. Understanding of smallholder farmers' reality, with their particular complex, diverse, risk prone and dynamic nature is still poor. Hence, this study focused on the smallholder farmers and millers in the Swaziland sugar industry.

The trend towards globalisation, technological advancement and the increased instability and uncertainty of the competitive arena and the environment in which organisations operate has led to the complexity of organisations (Kanter, 1989). In response to these complexities organisations have explored the use of social structures in which they operate by forging inter-organisational relationships. In the past, there has been limited focus on the social context of organisations. Hence, there has been very little attention paid to the role of relationships between organisations and the effect it has on the outcomes of these relationships. This study is concerned with the relationship of the smallholder cane growers and millers in the Swaziland sugar industry supply chain. It attempts to bring to light the role of relational factors in the performance of agricultural supply chains. This chapter presents

the summary, conclusions and implications of this study as well as the limitations and directions for future research. The following section presents the summary of the findings. The conclusions are presented in section 7.3. Section 7.4 presents the theoretical and managerial implications of the findings of the study. Finally, the limitations and suggestions for future research are presented in Section 7.5

## 7.2 SUMMARY OF FINDINGS

This study combines the New Institutional Economics (NIE) and the New Economic Sociology (NES), which try to explain institutional structures and organisational behaviour in terms of social actions. However, NIE stresses rationality and argues that economic action is essentially maximising rational behaviour, while the NES puts more emphasis on social actions and argues that economic action is part of social action. This study applies the relational contracting paradigm, which describes relations in terms of principles and norms, such as solidarity, mutuality, integrity of functions, and flexibility. Relational contracting involves management of contractual relationship based on the recognition of mutual benefits and win-win scenarios through cooperative relationships. Hence, it is a social as well as an economic system. Therefore, it is critical to consider the quality of relationships within a supply chain as a social system.

The purpose of a contract is to integrate partners from separate organisations to become one unit with a common understanding of the goals of the relationship, risks involved and how to cooperate in order to improve their performance. The organisational literature has always posited that relational factors, such as trust, cooperation, commitment and absence of opportunistic behaviour play a key role in economic exchange, particularly when one or another party is subject to the risk of opportunistic behaviour and incomplete monitoring or when moral hazard problems arise. These conditions are common in contractual relationships between independent parties like the cane growers and millers.

This study explored the concept of relational contracting in the Swaziland sugar industry and assumes that past experience and the “shadow” of the future play an important role in shaping the relationship of the cane growers and millers. This is because economic action takes place

within the networks of social relations that make up the social structure. Their social actions may be oriented to past, present or future behaviour of others.

There are three elements, which affect relational exchange quality. These include the initial conditions surrounding the exchange, the cumulative experiences of the parties with each other's behaviours as the exchange unfolds, and the impact that external events or behaviours outside the contractual context have on the perceptions and attitudes of the parties towards each other. Relying on theory and conceptual frameworks incorporating trust, cooperation, commitment and opportunistic behaviour, a model of cane growers' and millers' relationships was developed.

This study utilised a sample of 124 smallholder cane growers and three millers' representatives from three sugar mills (Mhlume, Simunye and Ubombo mill). The sample of the smallholder cane growers was drawn through the use of non-probability sampling, and specifically purposive sampling. The survey was conducted between the period of May and December 2001 and it involved the use of personal, face-to-face interviews.

### **7.2.1 Description of respondents and their perceptions**

The results indicated that most of the respondents were male and most sell their cane to the Mhlume and Ubombo mills. The average distance between farmers and the mill to which they deliver their cane is 20.5km. On average the profit per ha and revenue per ha for these respondents is R7, 409.03 and R15, 611.74 respectively.

Results regarding perceptions of cane growers indicate that there is no threat of uncertainty in their relationship with millers. Both cane growers and millers are certain and committed to their relationship. However, they differ in their perception of cooperation and opportunism. Cane growers perceive poor cooperation and opportunism by millers, while millers perceive good cooperation between cane growers and themselves as well as absence of opportunism by cane growers. The study further found that both cane growers and millers are dependent on each other and possess minimal trust towards each other.

Analysis of the farmers' perceptions on their performance indicate that farmers with better economic performance are associated with less transportation costs, more irrigation water,

shorter distance to the mill to which they deliver their cane, more land under cane production, a high yield per ha and a high sucrose content of the cane.

The results indicate that most farmers who are satisfied with their relationship with millers have been in the sugarcane business for less than 10 years. The results further suggest that the duration of the relationship is inversely related to satisfaction of farmers with their relationship with millers. A comparison of perceptions by farmers who trust and those who do not trust millers showed that more farmers who trust millers than those who do not reported making a profit from sugarcane farming, they are also certain of their relationship with millers, are committed to their relationship, are dependent on the millers and are satisfied with their relationship. In contrast, more farmers who do not trust millers than those who do, reported opportunistic behaviour by millers. As with satisfaction, the duration of farmers' relationship with millers was inversely related to trust. Farmers with more than 10 years in the sugarcane business had no trust in the millers.

### **7.2.2 Social factors and performance of cane growers' relationship with millers**

According to transaction cost economics, relationships between exchange partners are based on calculated costs and benefits, in which the economic components of an exchange become the key drivers in the exchange decision process and the social environment is regarded as less important. Contrary to this perspective, the relational contracting theory points at the limitations of building business-to-business relationships on a pure market basis and suggests that most inter-firm exchanges are embedded in specific social contexts that play an important role in supporting business-to-business transactions. Most importantly, inter-organisational trust, commitment and cooperation appear to be of fundamental importance to transactions as key enablers that arise from the social context.

The central question is "What is the role of social capital in the performance of supply chains?". It was hypothesised that relational factors such as trust, commitment and cooperation (elements of social capital) influence the performance of supply chains. The study used descriptive statistics and regression analyses to determine the factors affecting the performance of cane growers. As suggested by the literature, that increasing the relational content in an exchange can encourage cooperation and trust between transactors, thereby discourage opportunistic behaviour, and enhance relationship performance of each party in

the relationship. The results of this study indicate that, among other factors, the performance of the sugar industry supply chain is influenced by two types of factors. Firstly, those that relate only to the smallholder farmers. These include transportation costs of sugarcane, amount of irrigation water available, percentage change of the farmers' production quota, distance between production sites and the mill, which tends to have implications for transport costs, the value of assets per ha, yield per ha and the sucrose content of the sugarcane. Secondly, those that relate to the cane growers' relationship with the millers, such as farmers' dependence on the mill, perceived cooperation between millers and farmers, lack of goodwill trust by both millers and farmers and the perception of opportunistic behaviour practised by millers.

The results of this study revealed that there is a negative relationship between opportunism by millers and cane growers' commitment, trust, and perceived cooperation. The results suggest that an increase in the level of opportunism by millers is indirectly associated with a decrease in cane growers' trust, commitment and perceived cooperation, which in turn, have a positive influence on the cane growers' satisfaction. As expected, farmers' dependence on millers was positively related to their perceived cooperation. However, it was unexpectedly negatively related to cane growers' influence by millers, which in turn was negatively related to cane growers' satisfaction with their relationship with millers. The findings imply that the improvement of the sugar industry supply chain depends on the relationship of the participants within the chain. The absence of opportunistic behaviour and establishment of trust and commitment play a major role in facilitating cooperation between the farmers and millers.

### **7.2.3 Relationships between cane growers and millers**

A model explaining the relationship between cane growers and millers was proposed and empirically tested. The proposed model presented in Chapter three shows the interrelationship between relational constructs, and it was hypothesised in Chapter one that this model explains the relationship between smallholder cane growers and millers. The study employed both hierarchical regression and structural equation modelling (SEM). SEM was used because it allows simultaneous estimation of a measurement model and a structural model. The decision to use SEM was based on its advantage in accounting for measurement

error in constructs and their indicator variables as well as the simultaneous estimation of complex models. The SAS procalls procedure was used to estimate the model.

The proposed conceptual model also included constructs that represent the structure of the relationship between smallholder cane growers and millers in the Swaziland sugar industry. However, due to the complex nature of the proposed model and limited sample size, it seemed that dividing the model into three sub-models would provide a better understanding of the relationship between cane growers and millers as opposed to examining the model as a whole. Therefore, the model presented in Figure 3.3 was divided into three sub models as illustrated in Figure 6.3 and these sub-models were empirically tested using SEM. For the regression analysis, the model was not divided since regression analysis is not as sensitive to sample size as with SEM.

Several authors doubt whether relationship trust, cooperation, commitment and satisfaction can be regarded as distinct constructs (Bejou *et al.*, 1996; Crosby *et al.*, 1990; Dwyer *et al.* 1987; Kumar *et al.*, 1995; Lagace *et al.*, 1991; Leuthesser, 1997; Scheer and Stern, 1992; Wray *et al.*, 1994). Contrary to their belief, strong empirical support for their distinctiveness has been found as evidenced by the results of the measurement models reported in Chapter six. This supports Geyskens' (1998) empirical evidence on the basis of an extensive meta-analysis incorporating these constructs.

The study hypothesised that relationship trust, commitment and dependence positively influence cooperation, which in turn positively affects the cane growers' satisfaction in their relationship with millers. The findings suggest that smallholder cane growers' satisfaction is positively influenced by perceived cooperation between growers and millers. It is also indirectly influenced via perceived cooperation by growers' trust in the millers, commitment to, as well as dependence, on their exchange relationship with millers. Cane growers' perceived opportunistic behaviour by millers, through trust in millers and perceived cooperation, negatively influenced the cane growers' satisfaction

With respect to the trust-commitment relationship, it was expected that the influence of trust on relationship commitment would be positive and very strong. However, though there was a positive relationship, it was not very strong. The findings agree with the explanation given by Moorman *et al.* (1993) that the trust-commitment relationship would be less strong in an

environment with less uncertainty and vulnerability. Similarly, the results in this study indicated that both millers and cane growers are certain about their exchange relationship. Hence, they had no threat of uncertainty. However, this has a strong influence on cooperation, which in turn influences the cane growers' satisfaction. The results confirm previous findings by Morgan and Hunt (1994) and Moorman *et al.* (1992). Therefore, the derived structural model confirms that perceived cooperation has a direct influence on satisfaction, while trust, commitment and dependence have an indirect influence on satisfaction through cooperation. The findings also point out the importance of goodwill trust in a contractual relationship rather than contractual trust. These findings suggest that the presence of contractual trust is a necessary, but not a sufficient condition for farmers to be committed to their relationship, thus it is clear that there is a need for goodwill trust in supply chain relationships. Therefore, the findings of this study strongly support the proposed model.

### 7.3 CONCLUSIONS

It is well recognised that the quality of a contractual relationship plays a major role in the performance of the parties involved in the relationship. However, remarkably very little research has been done on the quality and role of contractual relationships in the agribusiness supply chain. Therefore, this study aimed at investigating the factors affecting the performance of the smallholder cane growers, which in turn impacts on the performance of the whole sugar industry supply chain. It also aimed to develop and test a model that explains the relationship of the smallholder cane growers and millers in the Swaziland sugar industry. The results of this study provide considerable insights regarding the perceptions of the smallholder cane growers and millers in their exchange relationship and the importance of relational factors in the performance of the sugar industry supply chain.

The results increase the understanding of relationships between smallholder cane growers and millers in the Swaziland sugar industry. Collectively, the results seem to suggest that trust, commitment, cooperation and absence of opportunistic behaviour between smallholder cane growers and millers are important in enhancing the performance of their relationship. This thesis, therefore, demonstrates the need to incorporate social factors in contractual relationships between supply chain members in order to improve their performance.

The results confirm the explanatory and predictive power of relational theory and the findings of the study are consistent with other studies, in that successful relationships often exhibit a high degree of trust and commitment, and fewer incidences of opportunistic behaviour. Therefore, contracts based on trust, and cooperation tend to minimise opportunism and uncertainties. They also guarantee consistent flow of materials (sugar cane and money) and information between members of the supply chain, thus, providing gains in efficiency for the whole supply chain system.

## **7.4 IMPLICATIONS**

### **7.4.1 Theoretical implications**

Since the theory of relational contracting is still at an early stage, this study has hoped to increase the understanding of the concept of relational contracting and its role in the performance of supply chains. This study is possibly the first to address the concept of relational contracting in an agricultural supply chain. The use of different scale indicators to measure relational constructs and the interrelationship of the constructs was an attempt to conceptualise relational contracting in an agricultural context.

The findings of this study provide support for the theory underlying the proposed model. According to relational contracting theory, relational-orientated exchanges can be analysed as a form of governance that is likely under the presence of economic factors (for example, dependence because of the absence of alternatives and the investment on specific assets). This study has also demonstrated that social factors play an important role in the constitution and maintenance of close exchange relationships.

The results support behavioural and social arguments proposed by relational contracting. Moreover, the study affirms that the evolution from adversarial to cooperation relationships is based mainly on the level of trust, commitment, dependence and the absence of opportunism. An attempt has thus been made to analyse the interrelationship between social and performance factors in exchange relationships. However, there is still a need for further research in this area, especially in terms of the conceptualisation of different constructs in the



context of relationships in agriculture and the establishment of items that accurately measure such constructs.

#### **7.4.2 Managerial implications**

The prime purpose of this study was to present and empirically test a model of the relationship between smallholder cane growers and millers in the Swaziland sugar industry. In addition to contributing to the understanding of business relationships, the study's findings provide empirical evidence on the theoretical links between relational behaviours in business relationships as well as practical implications for the members of the sugar industry supply chain, especially the cane growers and millers.

In practice, business transactions urge buyers and supplier firms to seek close, collaborative relationships with each other. This change in focus from value exchanges to value-creation relationships have led firms to develop a more integrative approach in marketing their products, which suggests that other firms are not always competitors and rivals, but are considered partners in providing value to the consumer. This has resulted in the growth of many partnering relationships such as relational exchanges. Therefore, close, cooperative and interdependent relationships are seen to be of greater value than purely transaction based relationships.

Drafting detailed written contracts and using them to resolve business relationship problems creates mistrust between partners in an exchange relationship. Correspondingly, the absence of a formal contract displays the level of trust that prevails in that relationship. 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 and mutual respect is more likely to succeed than a relationship of convenience supported by legal contingencies. Therefore, relationships characterised by trust and physical and psychological commitment as well as cooperation between smallholder cane growers and millers is more important for mutual benefit and good quality relationships. Since smallholder farmers have limited access to legal recourse it would be to their benefit to rely on trust as their principal governance mechanism for their exchange relationship with millers.

The study has shown that the absence of opportunistic behaviour, and high levels of trust, which translate to benevolent or goodwill trust and commitment are important in promoting cooperation and satisfaction for smallholder cane growers and millers. Hence, it also improves the performance of the sugar industry supply chain. The results suggest that both cane growers and millers need to develop goodwill trust in each other and resist opportunistic behaviour. Both smallholder cane growers and millers need to understand that trust can be created easily, it is not a simple factor that can be regarded as separate from other preconditions. 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 practise fairness, have integrity, ensure effective communication, have commitment and shared purpose or values which are realistic to their situations.

#### **7.4.3 Policy implications**

The sugar industry is the major foreign exchange earner and economic contributor to the economy of Swaziland. The move by the Swaziland government to encourage participation of smallholder farmers, who are mostly on the Swazi Nation Land, to participate in sugarcane production is acknowledged as a good move for the country's economy. Although the Swaziland Government has no major role in the operations of the sugar industry, some of the Government's National Strategies include enhancing private sector involvement in the upliftment of farmers on the Swazi Nation Land from subsistence to commercial farming whilst maintaining economic efficiency in production and promoting the production of sugarcane by smallholder cane growers. Therefore, understanding the factors affecting the performance of smallholder farmers, and hence the sugar industry supply chain as a whole, as well as their relationship with millers would assist the Swaziland Government in evaluating its national strategies for promoting the links between smallholder farmers and the private sector.

The study indicated that one of the problems facing the relationship of smallholder cane growers and millers is lack of commercialisation skills by smallholder farmers. This results in the misunderstanding of regulations and operations within the industry by such farmers. This suggests that smallholder farmers need to be trained and motivated in order to be commercially oriented. The Swaziland Government should be able to play a role in providing smallholder cane growers with some training in business management skills and in addressing issues of concern to farmers as they develop. This should be done through the government extension agents, provided specifically to assist smallholder sugarcane farmers, and the various government departments involved in providing training in business and management skills.

The results demonstrate that there is a lack of benevolent trust between smallholder farmers and millers as well as perceptions of opportunistic behaviour. This suggests that there is need for a policy that would facilitate the establishment and maintenance of trust between the members of the sugar industry supply chain. Therefore, the Swaziland Government in conjunction with the millers need to facilitate smallholder farmers' effective participation in the sugar industry supply chain through raising awareness of the potential benefits of a good relationship between members of the supply chain, providing access to information as well as the right mix of financial and technical support where needed. Measures should also include access to independent advice at the various levels of the farmers' representation within the sugar industry.

The Swaziland Government has to provide an enabling environment for both the smallholder cane growers and millers to improve their exchange relationships by creating and maintaining an overall macroeconomic environment that is conducive to the cooperation of smallholder farmers and the private sector such as the millers. This could include:

(1) Providing close support for enterprises and encouraging the creation of efficient, flexible and independent organisations such as farmers' associations and cooperatives. The success of the sugar industry is based on strong local farmer organization structures that uphold democratic values and champion common economic, commercial and financial objectives of the sugarcane farmers. Institutions that are formed on the basis of non-economic objectives in a business setting like that of the cane growers and the millers are bound to collapse.

(2) Government, and in particular its line-function departments, need to make an effort to understand specific industries like the sugar industry, with a view to providing necessary regulatory, legislative and trade support. There is a need to ensure that the legal framework is favourable for business relationships by clearly defining the legal and regulatory measures that govern business relations and inter-firm transactions; for example, the system of property rights, contract law, commercial law, tax measures and settlement of disputes. Most importantly, they need to ensure that such legal and regulatory measures are effectively implemented. Policies promoting the relationship between farmers and the industry will go a long way to improving the quality of the sugar industry supply chain.

## **7.5 RESEARCH LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH**

### **7.5.1 Limitations**

As with any study, the present study has its limitations, including those of time, financial considerations, and the nature of the research design. Therefore, several limitations of this study should be noted as they could provide opportunities for future research.

This study looks at the contractual relationship in a particular setting, specifically the sugar industry in Swaziland. Therefore, the external validity of the results is limited. The results of this study cannot be generalized to include supply chain relationships other than those in the sugar industry or to countries other than Swaziland. However, the study is viewed as the first to investigate the role of relational concepts in a contractual setting related to the actual behaviour of smallholder farmers and their processing firms.

This study, like most studies in agribusiness, suffers from the weakness of using cross-sectional data. Hence would shy away from making strong inferences of the relational concepts in relation to economic performance of a supply chain. Therefore, the use of a longitudinal approach could provide strong support for these relational constructs on performance. It can also enable the establishment of measurement scales that would have been tested over time with the same population.

The study utilised data collected mostly from one side of the inter-firm dyad. However, this is often the case in empirical studies on inter-organisational exchange. Using data from cane growers only often precludes the examination of how the model of the relationship would differ based on the perceptions of millers. The inclusion of the perception of the millers in modelling relationships could provide greater insights when comparing the models based on the two parties.

Conclusions about causality cannot be drawn from the model of the cane growers and the millers' relationship because structural equation modelling techniques do not allow one to determine the direction of causality as well as ascertaining whether that causality exists.

The issue of sample size is a critical one in structural equation models. Since this study utilised 124 observations, which is below the recommended sample size for SEM, this could result in the failure of convergence within the model. This problem was counteracted by splitting the model into three sub-models, which might have changed the estimation of the proposed model. Also some biases might have occurred during the data collection and analysis process, possibly through omitting important indicator variables.

### **7.5.2 Future research**

This study can be considered as a starting point for research concerning exchange relationships in agricultural supply chains. Future research is needed in order to fully develop the theory of relational exchange. As theory in this area is still developing, there are numerous possibilities for future research.

Although the construct measures used in this study have performed moderately well, it is possible that better measures could be found for the different constructs used in the study. For example, the link between trust and commitment was not supported. Though the relationship was positive, as expected, it was insignificant. This could be due to the fact that there are different types of commitment, which include affective and calculated commitment. In future research, it would be necessary to separate the measures of these different types of commitment. Certainty was expected to have a positive relationship with trust, cooperation and satisfaction. Cane growers who trust millers should feel more certain of and satisfied with their relationship with millers. However, the results in this study failed to support this

expectation. Therefore, future research should use uncertainty as a construct rather than certainty and also incorporate more indicator variables.

The study has shown that most of the conflict between cane growers, especially smallholder cane growers and the millers is based on economic issues as well as socio-economic issues. Farmers complain of unfair distribution of the sugar supply chain revenues, which involves price sharing between sugarcane production and processing as well as sharing of income from the sugarcane by-products and sharing of transportation costs for cane to the mill. The educational programmes aimed at availing information to farmers, seem not to be effective, since some farmers still lack the understanding of the operations of the industry and the rules and regulations. Therefore, an in-depth action research aimed at identifying the strategies used in the sugar industry with a purpose of providing new strategies as possible solutions to the existing conflicts and perceptions of poor relationships would be important. This could possibly enlighten both millers and growers that they all belong to one supply chain, and the need to improve the competitiveness of the chain through fair dealings between them.

The findings of this study are specifically relevant to the relationship between smallholder cane growers and millers in the Swaziland sugar industry. The situation may be different for this same industry in other countries and also when applied to different commodities within the country. Thus, similar studies in other commodities in the region as well as other countries could assist in generalizing findings of relationships between smallholder farmers and processing firms.