A Conceptual Model of Supply Chain Governance in Chinese Agribusiness Sector

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Abstract. Chinese agri-food chains consist of the millions of small scale farmers, which are not well structured and organized in the supply chain. Due to market liberalization and globalization, one of the most challenging issues along agri-food chains in China is becoming the issue how to link these small-scale farmers into the modern chains. Consequently it is essential for both policy makers and private sectors to understand the governance structure in agri-food supply chains. Therefore, this paper aims to develop a theoretical framework for supply chain governance, including its antecedents and consequences, as well as a series of hypothesis for empirical test. In: Shebani K (ed). Proceedings of the 1st International Conference on Applied Operational Research – ICAOR (2008), pp 178–198. Lecture Notes in Management Science Vol. 1. ISSN 2008-0050.

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1 Introduction

Trade liberalization around the world has resulted in the integration of agricultural supply chains in the global markets. This development allows the linkage of traditional agricultural productions with modern, niche markets, such as export markets or domestic supermarkets. One of the institutional innovations during the process is the so called contract farming (CF). Key and Runsten (1999) view the formation of such new institution as a response to imperfections in markets such as credit, insurance, information, production factors, etc. CF have been widely applied in the Africa international agro-chains and its major impacts and challenges was often discussed in the Africa content as well (Warning and Key, 2002; Glover,987; Porter and Phillips-Howard,1997). A central debate during the agricultural industrialization is whether small scale farmers from developing countries have been excluded
from the process. Studies from Africa and Latin America suggested mixed results, ranging from the positive impacts of an ‘agribusiness for development’ model (e.g., Williams and Karen, 1995; Warning and Key, 2002) to probably only rich, large farmers benefit from the emerging of supermarkets (Hernández, et al. 2007; Weatherspoon and Reardon, 2003; Reardon and Barrett, 2000).

The market chain in China is experiencing much more rapid revolution than anywhere in the world (Hu, et al. 2004). In their series of studying on the impacts of market chain changes on farmer in China, Huang, et al. (2007 a and b) concluded that both small and large farmers and rich and poor ones have equal opportunity to participate in modern marketing channels in China. Furthermore, farmers do receive much higher prices for their products from the modern marketing channels. They contribute the results to several aspects in the China content, such as the equitable distribution of land among farmers limited the emerging of large farmers, as well as high competition in the domestic markets.

The agribusiness chain may involve various actors and cover long stages from input suppliers to final consumers. Chinese agri-food chains consist of the millions of small scale farmers (suppliers), which are not well structured and organized in the supply chain. Not long ago the whole agri-food supply chain in China was operated under governmental planning, where every investment in new market outlets was provided by government. Over the three decades of market liberalization, it has been suggested that the most challenge part along these agrifood chains in China is how to link these small holders into the modern chains. Therefore, it is of paramount for both policy makers and private sectors to understand the status of the chain governance and its antecedents and consequences.

Most chain governance studies are mainly focusing on their transactional aspects of the relationships between farmers on the one hand and modern agribusiness on the other hand. Within the framework of transaction cost economics (TCE), their supplier-buyer relationships shall structure itself in such a way to minimize their transaction costs (Williamson, 1975, 1993). However, TCE has been criticized for its simplicity since it ignored the informal, socially embedded relationships in producing stable contract conditions (Demsetz, 1988; Ring and van den Ven, 1992 and 1994). Nevertheless, the social relationships, such as network and trust, are such important concepts in the Asian culture and should not be excluded in our China study in analyzing relationship exchanges.

In this paper, we seek to combine both TCE theory and relational theory to study the chain governance relationships between small scale producers in China and their buyers. We propose that the governance relationships consist of two dimensions: contractual governance and relational governance. The traditional contractual governance represents the hard, explicit and formal side of the relationships. By including the relational exchange aspects in this study, we will look at the soft, normative and informal side of the relationships between farmers and their buyers as well. The study intends to clarify the relationships between contracts and relational aspects, such as trust, in the Chinese content. The results would provide evidence based support to strategic policy makings for both governments and private sectors. If the results turn out to be a complementary relationship between contracts and trust, it is suggested to combine resources and efforts
to reach farmers from both formal, legal perspective as well as social relational
network. If the two concepts are substituting each other, one might concentrate
their resource on one instead of two aspects of their relationships.

The overall goal of this study is to develop and empirically test a theoretical
framework for chain governance, including its antecedents and consequences. In
other words, how farmers are linked in the chain, why they are linked in certain
ways, what are the external influencing factors for the choice and what are the
consequences of their choice? Specifically, this research is aiming to examine fol-
lowing sets of questions:

1. Can chain governance be conceptualized from both contractual as well as
   relational aspects? If so, is the relationship between contractual govern-
   ance and relational governance substitute or complements to each other?
   The hypothesis is that they are complementary in the Chinese context.
2. Will external environments impact on the choice of chain governance? If
   so, in what kind of relationships? Will higher environmental uncertainty
   encourage closer cooperation between small scale producers and their
   buyers?
3. What are the relationships between chain governance and transaction
   specific investment (TSI)? Will a more closed governance relationships
   induce more TSI from the farmers?
4. How the two dimensional (contractual and relational) chain governance
   affect chain performance? Will a more closed chain governance relation-
   ship generate better chain performance?

Proposed Model for this study
2 Chain Governance and Transaction Cost Economics (TCE)

Williamson (1996) defines governance structures as ‘the institutional matrix within which transactions are negotiated and executed.’ Hence, chain governance refers to the institutional framework in the supply chain where transactions are carried. In order to better understand the chain governance, we first need to touch upon an important theory: transaction cost economics (TCE). Transaction cost economics is deeply rooted in two recent fields of research, New Institutional Economics (NIE) and economics of organization (Williamson, 1991, 1993, 1998).

Based on Williamson (1991) polar concept, governance structure can be viewed as a continuum. At one extreme lie spot markets, where transaction are solely determined by prices, while, at the other end lies full vertical integration, where all transactions are carried out under one ownership. In between the two extremes of poles lie various hybrid forms of governing economy activities, such as contracts, strategic alliances, joint ventures, etc. Different types of organization form were differentiated by different coordinating and control mechanisms, different type of contract laws, etc.

The most elaborated study on chain governance classification can be found by Peterson et al. (2001). In their paper, they distinguished five major categories of vertical co-ordination strategies, namely spot/cash markets, specification contracts, relation-based alliances, equity-based alliances, and vertical integration (Figure 1). As the vertical co-ordination continuum moves from the far left spot market to the far right vertical integration, the characteristics of ‘invisible hand’ co-ordination are gradually replaced by the characteristics of ‘managed’ co-ordination.

![Figure 1. The Vertical Coordination Continuum (Peterson et al, 2001)](image_url)
TCE has been widely applied in industrial marketing and management, such as buyer-seller relationships (Stump and Heide, 1996; Cannon and Perreault, 1999, Jap and Ganesan, 2000), the choice of organizational structure (Johnson and houtson, 2000; Leiblein, 2003), as well as marketing channel integrations (Klein, et al, 1990).

In recent years, TCE has been presented to agri-food markets (e.g. Sporleder, 1992; Henderson, 1994; Schulze, et al. 2007), particularly in the context of supply chain management (Hobbs, 1996; Hobbs and Young, 2000; Hanf and Dautzenberg, 2006; Zuniga-Arias and Ruben, 2007). According to TCE, one of the determinants of governance structure is the nature and level of transaction costs that is the degree of uncertainty, asset specificity and frequency of the transaction. It seems sensible to suggest that ‘simple governance structures should be used in conjunction with simple contractual relations and complex governance structures reserved for complex relations.’(Williamson, 1996). Several studies has confirmed the hypothesis that transaction costs were a primary motivation for vertical coordination.(Hobbs, 1997; Frank and Henderson, 1992).

3 Contracts

One important concept in chain governance and TCE is contracts. Macneil (1978 and 2000) classified three types of contract laws: classical contract law, neoclassical contract law and relational contract law. Classical contract law supports the autonomous market form of organization and is based on a set of legal rules with formal documents and self-liquidating transactions. Neoclassical contracts allow flexibility in longer-term economic relations by including additional governance structures (e.g. arbitration). Relational contracts are agreements in principle, which circumscribe the contracting parties’ relationship, including tacit as well as explicit arrangements (Frank, S., and Henderson, D., 1992). The neoclassic contract is more elastic than classical one but more legalistic than the relational one.

In relation to Macneil’s three-way classification of contracts, Williamson (1996) proposed a schema which matches governance structures with commercial transactions. Classical contracting applies to market governance, the main structure for nonspecific transaction. Neoclassical contracting applies to trilateral governance, where occasional transaction of the mixed and highly idiosyncratic kinds takes place. Relational contracting is relevant to transaction-specific governance, where two types of structures can be distinguished: bilateral governance (obligational contracting) and unified governance (internal organization).

Market governance with classical contracting for non-specific transactions often happens in the spot market where demand and supply are determined by prices. Contractual transaction (Neo-classical contracting) is defined as the occasional transactions conducted under written agreement between buyers and sellers with mixed or idiosyncratic specific investments. Relational transaction (bilateral and/or unified governance) is defined as recurrent transactions that are completed based on long-term relationships between two parties with mixed or idiosyncratic
specific investments. Therefore, contractual and relational governance are two major business relationship governance forms.

![Table showing investment characteristics](image)

**Fig. 2.** Matching governance structures with commercial transactions

In Macneil’s relational contracting theory, the concept of contract is expanded to refer to relationships between people who share norms and values. Trust is a key feature in this relational governance. Relational governance mechanisms (such as trust) are regarded as a means to enhance transaction specific investments associated with less monitoring and bargaining (Barney and Hansen, 1994).

## 4 Trusts

Most studies define trust as ‘the extent to which a firm believes that its exchange partners is honest and or benevolent.’ (Anderson and Narus, 1990) Honest refers to a channel member’s belief that one’s partner is ‘reliable, stands by its word, fulfills promised role obligations and is sincere’. Benevolence is defined as the belief that one’s partner is ‘genuinely interested in one’s interests or welfare and is motivated to seek joint gains’ (Geyskens et al., 1998).

Based on the degree of trust, Barney and Hansen (1994) identified three types of trust in economic exchanges: weak form trust, semi-strong form trust, and strong form trust. Williamson (1993) distinguished another three types of trust according to the objects: calculative trust, personal trust, and institutional (or hyphenated) trust.

A series of research has identified several antecedents and consequences of trusts. Anderson and Narus, (1990) identified and tested three antecedents (coop-
eration, communication and economic outcomes given comparison levels) and two consequences (conflict and satisfaction) for trusts. Fritz and Fischer (2007) observed that trust is positively affected by quality communication and positive collaboration experience in the past. Lu, et al. (2007a) developed a conceptual model on small holders’ personal relationships and their market behavior. They observed that trusted buyer-seller relationship enhanced farmers’ participation in modern market outlet (export and supermarket) as well as increased the contracts application.

In their meta-analysis, Geyskens, et al (1998) examined 24 studies on trusts and the antecedents and consequences of trust in marketing channels. Based on over 60 constructs as antecedents and consequences of trust from the articles reviewed, they developed and tested a causal model in which trust played a mediating role between its five antecedents (environmental uncertainty, own dependence, partner’s coercive power use, communication, economic outcomes) and two consequences (satisfaction, long-term orientation). They also identified that the top three constructs mostly related to trust were sentiments (goal compatibility, fairness); actions (communication, opportunistic behavior and support), and performance (economic outcome).

Although benevolence and honest are conceptually distinct, most trust studies included one or both aspects of trust in a single, unidimensional measurement (Jap, 2001; Claro et al, 2003; Lu et al. 2007). Only limited studies (Ganesan, 1994, Kumar 1995, and Kemp and Ghauri, 2001) successfully developed a multidimensional construct for trust and measured it for its two facts: credibility and benevolence. The question whether researchers need to measure the two facets of trust remains unanswered.

5 Two Dimensional Approach

Chain governance, by its very nature, is difficult to measure and requires the constructs of proxy variables, or scale development. Based on the above literature review, we propose to study the chain governance from two dimensions: contractual governance and relational governance (see figure 3). We define that contractual governance refers to any agreements (both written and oral) reached by parties to reduce risk and uncertainty in exchange relationships. Considering the reality in China, we category two types of contracts, that is marketing contracts and production contracts. Marketing contracts defines buying and selling conditions for the production while production contracts describe more details for the production process. Relational governance refers to parties’ informal embedded relationships and social norms. Empirical research shows that relational governance is associated with trust (Gulati, 1995; Zaheer and Venkatraman, 1995; and Dyer and Singh, 1998). Cooperative norms are the shared belief and expectation of two parties that they must work together to achieve mutual goals (Baker, Simpson and Signauw1999; Cannon and Perreault 1999). Cai and Yang, (2008) identified key factors which have impacts on cooperative norms, as well as the influences of these norms on business performance in a Chinese context. Hence, we will approach
the relational governance from two facets: trust and cooperative norms. Contractual governance stand for the hard, explicit and formal sides of their relationships, while relational governance suggests the other side of soft, tacit and informal.

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Fig. 3. Two dimensional approach to chain governance

Researchers have been studying the relationships between contractual and relational governance (Yu, et al., 2006). Ferguson, et al. (2005) observed that relational governance was the predominant governance mechanism associated with exchange performance. Contractual governance was also positively associated, but to a much lesser extent. There are compelling arguments for a substitutive relationship between these two governance mechanisms (Dyer and Singh, 1998; Dyer and Singh, 1998; and Gulati, 1995). Gulati (1995) even claimed that ‘Cautious contracting gives way to looser practices as partner firms build confidence in each other.’ Yu, et al. (2006) found that both formal governance (contractual agreements and financial commitments) and relational governance (trust) mechanisms affects suppliers’ tendencies to make specialized investments. They argued that, as firms built up more calculative trust, their partners reduced the dependence on formal governance mechanisms. However, the empirical study from Poppe and Zenger (2002) supported the proposition that formal contracts and relational governance function as complements. These two may coexist and interact with each other. In their China chain study, Lu et al. (2007a and b) confirmed that a positive relationship exist between trust and contractual governance. We believe that relational governance becomes a necessary complements to contracts when change and conflict arise (Macneil, 1978). In particular in the Asian culture, social norms and values are sometime functioning as tacit agreement and binding people’s behavior. In the eyes of certain group of Chinese, contracts are a piece of paper and do not have any use if partners do not trust each other. Thus we hypothesize in the content of Asian culture:

Hypothesis III: There is a positive relationship between contractual governance and relational governance.
6 Environmental Factors

Environmental factors play a significant role in decision-making uncertainty in marketing channel relationships (Achrol and Stern, 1988). In a highly instable environment, buyers and sellers may seek to establish certain governance structure in order to manage this turbulent situation better. Geyskens et al. (1998) grouped environmental uncertainty as environmental diversity (the degree of heterogeneous and complex of environmental elements), environmental volatility (referring to the rapid changes of market and demand), and environmental munificence (the rich availability of resources. Based on reviewing the work of Claro, et al.(2003), Cannon and Perreault ( 1999), Ganesan, (1994), and Klein, et al.(1990), as well as the actual situation in the agriculture in China, we formulated two dimensions (diversity and volatility) to study environmental uncertainty.

Achrol, et al. (1983) argued that cooperation and coordination will increase in a highly uncertain input/output or competitive sector as marketing channel dyads tend to protect themselves by being better organized. In a high degree of uncertain market, buyers and sellers are trying to work together during the difficulty times, such as using contracts to safeguard their business and minimize the impacts of the turbulence from the markets. Thus, we hypothesize a positive relationship between the environmental uncertainty and contractual governance.

Geyskens et al. (1998) and Kumar et al. (1995) observed that environmental uncertainty is inversely related to relationship quality and trust. Ganesan (1994) argued that in a severe uncertain environment, channel partners tend to remain flexible and develop temporary relationships and thus exhibits lower trust. However, these studies were based on large companies in western culture, where business relationships were more rooted in the formal, explicit aspects. In the Chinese content, we expect that our target groups, small scale farmers, embrace much more to personal relationship in the uncertainty environments in order to secure their markets. Thus, following our Hypothesis 1 in which a positive relationship between contractual and relational governance is proposed, we also expect a positive impact of environmental uncertain on relational governance as well. Thus we can formulate following hypothesis:

\(H2a: \text{The greater the perceived environmental uncertainty, the greater the use of contractual governance.}\)

\(H2b: \text{The greater the perceived environmental uncertainty, the greater the use of relational governance.}\)

\(H2c: \text{The greater the perceived environmental uncertainty, the greater the use of both contractual and relational governance.}\)
7 Transaction Specific Investment

Transaction Specific Investments (TSI) are one of the critical elements in buyer-seller relationship and refer to the seller’s perception of the extend to which an investment was made specifically for the transaction with the selected buyer (Claro, 2004; Lu, 2007c). TSI focuses on the accumulation of assets that are difficult and costly to shift from one transitional partner to another, thus asset spasticity arises. Asset specificity refers to durable investments that are undertaken in support of particular transactions, the opportunistic cost of which investments is much lower in best alternative uses (Williamson, 1985). Highly asset-specific investments represent costs that have little or no value outside the exchange relationship. Williamson (1985) has distinguished five types of asset specificity: site specificity, physical asset specificity, human asset specificity, dedicated assets and brand name capital. Site specificity is held in situation when, for instance, supplier and customer are located close to each other in order to economize on transport and inventory costs. The other type of asset specificity is physical asset specificity. These are investments by a supplier in capital goods that are done specifically for the transaction (e.g. investments in equipment, tools). Human asset specificity refers to investments in particular knowledge that has been developed to use in specific transactions (e.g. training of sales —people specifically for a certain partner). Dedicated assets are investments in generic assets that exceed the level of investments the firms would do if it did not engage in the specific transaction — relationship. The last type of asset specificity is a brand name capital. Investments in a brand name capital become vain if the product, which the brands name, is tied is no longer available.

Transaction specific investments most of the time become a cause of so called hold-up problem. In agri-food supply chain production process requires investments, which are mostly sunk costs, because assets cannot be easily converted or used for other purposes, therefore they are specific. Asymmetric market information in combination with asset specificity for producers increases the risk of being held-up by processors. In agri-food supply chains not only farmer take the risk to be held-up, but also processor firm may make transaction —specific investments with its supplier. According to Ollila and Nilsson (1997) in food production transaction-specific assets exist in both sides, in production and processing. To avoid this hold-up problem farmers and processors can decide to integrate into the cooperative firms. According to Bijman (2002) the most efficient way to do this is that farmers own processing assets.

Initially, the high level of TSI was considered as having a negative impact on buyer-seller relationship, because it would foster dependence and opportunism (Williamson, 1985). However, later on research has found also positive impact of TSI on buyer-seller relationship, such as enhanced coordination and cooperation between partners (Dyer, 1996). Depending on investments a seller may experience more constant sales volume, more repeat business, a decrease in sales expenses and improving in planning and forecasting (Lohtia and Krapfel, 1994).
8 Performance

Research on performance of supply chain has proven to be difficult task. Although various studies have been devoted to performance, the topic remains controversial. A large number of various performance indicators has been used to characterize supply chains, ranging from highly qualitative indicators like customer or employee satisfaction to quantitative indicators like return on investments. This large number of different performance indicators, and the lack of consensus on what determines performance of supply chains, complicates the selection of performance measures (Aramyan et al. 2006). The debate rises from the fact that performance can be defined and evaluated in several ways, and few definitions and indicators of performance are widely accepted (Claro, 2004). Furthermore, combining these indicators into one measurement system proves to be difficult.

Performance indicators are of vital importance for continuity of chains and networks. Insufficient scores on these performance measures might lead to continuity problems in the short or long term. To ensure continuity it is imperative to work efficiently and minimise cost chain-wide. In the long term production and consumption chains will have to approach the efficiency frontier in order to survive. Evaluation of an organisation’s performance is complicated in the presence of multiple inputs and multiple outputs in the system, including negative externalities. These difficulties require a shift in the focus of performance evaluation and benchmarking from characterising performance in terms of single measures to evaluating performance in a multidimensional systems perspective (Zhu, 2002). Furthermore, chain performance is not just an aggregation of individual performance. The production function for a supply chain faces additional costs compared with firms. Beside costs associated with production, a supply chain is faced with information costs (i.e. the costs associated with information exchange between SC members), inventory carrying costs (i.e. the costs associated with carrying a quantity of stored inventory; capital costs, inventory service costs, storage space costs and inventory risk costs), physical flow costs (i.e. the costs of distribution), and transaction costs (i.e. the costs associated with transactions between SC members) (LaLonde and Pohlen, 1996). These costs have both fixed and variable characteristics and should be taken into account in measuring performance.

There is less agreement, on the matter of what performance measurement system should look like. According to Bunte et al. (1998) performance indicators should relate to both effectiveness (to what extent are output standards met) and efficiency of the supply chain and its actors (input-output ratio compared to a target). Van de Vorst (2000) makes a slightly different distinction: utilisation (actual input/norm input), productivity (actual output/actual input), and effectiveness (actual output/norm output). Beamon (1999) suggests a system of three dimensions: resources (i.e. efficiency of operations), output (i.e. high level of customer service) and flexibility (i.e. ability to respond to a changing environment).

Available literature identifies a number of performance measures as important in the evaluation of supply chain performance. The most common used measures can be grouped as following: efficiency, flexibility and responsiveness. Aramyan
et al., 2007 summarised performance indicators used in literature and proposed the following categories of performance indicators applicable for agri-food supply chains: efficiency, flexibility, responsiveness, and food quality. Efficiency measures how well the resources are utilized and includes several measures such as production costs, profit/profitability, return on investment, and inventory. Flexibility indicates the degree to which the supply chain can respond to a changing environment and extraordinary customer service requests. It may include customer satisfaction, volume flexibility, delivery flexibility, reduction in the number of backorders, and lost sales. Responsiveness aims at providing the requested products with a short lead time. It may include fill rate, product lateness, customer response time, lead time, shipping errors, and customer complaints. The specific characteristics of agri-food supply chains are captured in the measurement framework in the category food quality. In 2007, Lu has proposed a model to analyse governance mechanisms that support market performance in Chinese vegetable supply chains. In his model, Lu used three performance indicators, which are efficiency, quality, price, satisfaction, and profitability. Han et al, 2006 conducted a study which explored the links between vertical integration, quality management, and firm performance within the framework of transaction cost analysis using data from Chinese pork industry. As performance indicators authors used growth rate, market share, profitability, and productivity.

In 2003 Claro et al. built an integrated framework for Dutch potted plants and flower production that aimed at the combination of constructs on the transaction, dyadic, and business environment level for testing their impact on relational governance and performance. As performance indicators they used growth rate, profitability, and the perceived satisfaction have been used. The impact of flexibility on two financial performance indicators has been assessed.

Combining the aforementioned works and taking into account that our case is Chinese food supply chain the following set of performance indicators is proposed for this study:

1. Efficiency (Final product price, profitability (value added), sales growth)
2. Flexibility (Volume flexibility, delivery flexibility)
3. Quality (Customer satisfaction with product quality)

9 Relationship between TSI, Chain Governance and Performance

9.1 Relation between TSI and Chain Governance

The first link between asset specificity and performance is that asset specificity increases productivity, based on proposition of Perry, 1989; Dyer 1996. According to Perry (1989): “Gains from trade are in enhanced by investments in assets which are specialised to their exchange.” However, increased assets specificity requires additional costs, because when actors make TSI, transaction costs arise because of fear of opportunism (Dyer, 1996). Therefore, governance structures are necessary
when chain actors make TSI to control opportunistic behaviour. The purpose of governance mechanism is to provide, at minimum costs, the coordination, control, and “trust” that are necessary for chain actors to believe that engaging in the exchange will make them better off (Williamson, 1985). From TCE perspective when asset specificity is low, contractual governance is considered to be a (relatively) more efficient means of governance. When asset specificity and/or uncertainty are high, hierarchical governance is (relatively) more efficient. When, asset specificity is “semi-specific” and uncertainty is low, hybrid governance (through neoclassical contracts) is viewed as (relatively) more efficient (Dyer, 1996). Contractual arrangements provide the possibility to reduce the effects of opportunism and uncertainty. Williamson (1985) argued that in transactions with TSI, the exchange partners need more formal management due to increased dependency of the investing partners. When the transaction involves a high level of TSI, detailed transaction conditions should be negotiated to reduce risk and uncertainty for transaction partners. Consequently, formal contracts are applied. Therefore we expect the positive relationship between contractual governance and TSI. Based on theory above and related it to our model the following hypothesis is proposed:

\[ H3a: \text{The higher the level of contractual government the higher the level of TSI.} \]

In addition to neoclassical contracts, alternative means of safeguarding hybrid transactions have been offered such as: trust, reputation, financial hostage (Dyer, 1996; Sako, 1991; Klein 1980). Based on aforementioned arguments asset specificity increases transaction costs because of fear of opportunism. In 1995, Zaheer and Venkatraman, argued that trust can be viewed as the obverse of opportunism since it reflects one party’s belief that its requirements will be fulfilled through future actions undertaken by the other party. Such a view is in line with the theoretical reasoning in the negotiations literature (Pruitt 1981) as well as the transaction cost perspective in which trust is an important determinant of long-term hierarchy-like relationships (Williamson 1985, Aoki 1990, Bromiley and Cummings 1991). Thus, one can propose that the more transaction partners trust each other, the more these partners are likely to invest in transaction specific investments. In the model proposed in this study one of the major items of relational governance is trust. Relational governance mechanisms such as trust are regarded as means to enhance TSI associated with less monitoring and bargaining (Yu, et al., 2006). Therefore, the following hypothesis is proposed:

\[ H3b: \text{With the increase of trust (the level of relational governance) the level of TSI increases.} \]

Combining these two hypothesis into one for our model with two-dimensional governance approach the following hypothesis is proposed:

\[ H3: \text{There is a positive relationship between two-dimensional governance approach and TSI.} \]
9.2 Relation between Chain Governance and Performance

Formal contracts are mechanisms that attempt to mitigate risk and uncertainty in exchange relationships (Lusch and Brown, 1996). However strict adherence to the written contract may disturb the necessary flexibility in transactional exchange (Ferguson, et al., 2005). Exchange performance can suffer when detailed contracts are used without a well developed social relationship (Cannon et al. 2000), and may create opposing conflicts that could eventually harm channel member flexibility, thus performance (Lusch and Brown, 1996). When social relationships are well developed and partners trust each other, a higher level of flexibility and tolerance is found than in relationship with lower trust (Morgan and Hunt, 1994). Consequently, the buyers that trust their partners will be more willing to react flexible to changing environment or demands of the partner (Claro, 2004). Based on this we hypothesize:

H4(I): In the governance with two dimensional approach contracts with well developed social norms such as trust and cooperative norms increase the level of flexibility.

According to Macneil(1981) formal contracts represent promises and obligations to perform particular action in the future. Contracts may specify the quality obligations of the products as well (e.g. compliance with certain standards, monitoring, penalties). Therefore, with contractual governance, transaction partners could be highly motivated to comply with the quality arrangements specified in the contracts, since in case of not complying with these arrangements may result in terminating the contract and losing a transaction partner.

According to Ganesan (1994) trusting partners have strong desire to continue the relationship. However, the duration of the relationship is related to the fulfilsments of mutual requirements regarding quality arrangements (Lu, 2007c). Not compliance with the requirements will harm trust and future relationship. Based on above mentioned driving forces, the following hypothesis is proposed:

H4a: The higher the level of contractual governance the higher the level of product quality due to high compliance with quality requirements.

H4b: The higher the level of trust the higher the level product quality.

Combining these two hypotheses into one for our model with two-dimensional governance approach the following hypothesis is proposed:

H4 (II): There is a positive relationship between governance with two dimensional approaches and product quality.
Trust decreases negotiation costs. Negotiations are less costly under condition of high inter-organizational trust, because agreement are reached more quickly and easily as trust mitigates the information asymmetries by allowing more open and honest sharing of information (Zaheer, et al., 1998), therefore the higher the trust the lower the negotiation costs. Zaheer, et al. (1998), proposed that exchange performance (i.e. suppliers’ fulfillment of buyers requirements in terms of price, delivery time, quality and flexibility) is lowered when negotiation costs are high due to the time and energy spent for negotiations. Consequently, when there is a trust between partners and negotiation costs are low, performance will tend to increase. According to Rotter (1967), “...One of the most salient factors in the effectiveness of our present complex social organization is the willingness of one or more individuals in a social unit to trust others. The efficiency, adjustment, and even survival of any social group depend upon the presence or absence of such trust.”

Morgan and Hunt, (1994) listed arguments why trust enhances efficiency, productivity, and effectiveness. These arguments are: 1) transaction partners work at preserve relationship by cooperating with transaction partners, 2) resist attractive short term alternatives in favour of expected long-term benefits of staying with current partners 3) view potentially high-risk actions as being prudent, because of the belief that their partners will not act opportunistically. Besides, according to Sako (1992) trust contributes towards enhancing efficiency, because: 1) it stimulates the flow of truthful information which might otherwise be distorted by opportunistic behavior, which in its turn may improve efficiency, 2) monitoring costs are low because trust enables abolishing the quality inspection on delivery, so costs of enforcement ensures that promises are fulfilled without actual use of external sanctions, 3) costs of quantity and price negotiations are low because of mutual open disclosure of information concerning future business plans and costs. Based on aforementioned literature review the following hypothesis is proposed

**H4c**: The higher the level of trust the higher the level of efficiency.

New institutional economics theories of contracting suggest that contractors may be able to design contracts that enhance economic efficiency (Sykuta and Cook, 2001). Combining these two together the following hypothesis is proposed.

**H4(III)**: There is a positive relationship between governance with two dimensional approach and product quality.

Summarizing the hypothesis proposed for relationship between chain governance and performance we propose one general hypothesis (H4, which consists of hypothesis H4 (I), H4 (II) and H4 (III)):

**H4**: There is a positive relationship between governance with two dimensional approaches and performance.
Conclusion

When perusing the relevant literature on supply chain in developing countries, one central policy question is how to integrate small scale farmers in the value chain. The majority of the articles addressing this topic focus on contract farming while limited research touches upon the issues of trust and relations. However, a combination of both contracting and relationships are seldom addressed.

Based on the transaction cost economics theory and relational theory, we developed a conceptual framework for the choice of chain governance in the Chinese agribusiness context where small scale farmers are prevailing. The chain governance is conceptualized from both contractual as well as relational aspects. A series of hypotheses is developed for the quality of relationships between chain governance and its antecedents, environmental uncertainty, as well as its consequences, chain performance.

Future research is needed to empirically verify this model. Both qualitative and quantitative approaches could be applied. Because these concepts are based on the combination of managerial constructs, we consider the application of structural equation modeling and path analysis to be useful methods.

References


30. Han, J., Omta, S.W.F., and Trienekens, J. H.,(2007). The Joint Impact of supply chain integration and quality management on the performance of pork processing firms in China. IAMA or IFAMA???


