

**Relationships in Business Markets: An Empirical Examination of
Trust, Reliance, and Commitment**

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Abstract

Past years have seen a plethora of studies on the construct of trust in business relationships. Despite the significance of trust in developing relationships, research on trust still has two main deficiencies. First, previous studies attempted to stretch the concept of trust from interpersonal towards interorganizational relationships which resulted in a cross-level fallacy, as the emotional characteristic of trust only makes sense at the interpersonal level. Second, despite the obvious benefits of trust, long-term and successful business relationships not based on trust can exist, as relationships between firms are invariably based on considerations of mutual interest. Trust is not the only construct enabling such mutual interest. To develop the concept of trust as exemplified in the current literature on business relationships, this study uses an argument proposed in the study by Mouzas et al. (2007) and validates the distinct importance of interorganizational *reliance* vis-à-vis interpersonal trust in business markets. Despite the importance of issues around reliance in business relationships, there exists a remarkable absence of studies on reliance in business marketing research. This paper distinguishes between trust and reliance and applies them respectively to the interpersonal and interorganizational levels. We use data from 404 companies in the construction industry to empirically examine the effects of trust, reliance and commitment on several key indicators of relationship quality, including communication, social satisfaction, economic satisfaction and long-term orientation. Our analysis using Structural Equation Modeling shows that trust is positively related to affective commitment, social satisfaction and communication, while reliance is positively related to behavioral commitment, economic satisfaction, and long-term orientation. This supports trust and reliance as the key factors which distinctly affect interpersonal and interorganizational relationships and thus have different effects on business relationship characteristics.

1. Introduction

The interests between two parties for an exchange entail the basis for interaction (Ford 1980; Håkansson 1982; Turnbull et al. 1996), cooperation (Hill 1990), and collaboration (Jap 1999). Such interactions have become a main focus of the business marketing literature as the ability to effectively develop and maintain strategic partnerships as well as ongoing firm relationships has become a critical competence (Lewicki et al. 1998). Successful relationships between firms rely on relational norms of exchange. The two key constructs of trust and commitment have received substantial attention in this context. Trust has been identified as being critical in facilitating exchange relationships. As the gateway to a successful interaction (Wilson and Jantrania 1994), trust plays a central role in relationship building and relationship maintenance (Dwyer et al. 1987; Morgan and Hunt 1994). Besides trust, relationship commitment is another fundamental prerequisite for successful channel relationships (Dwyer et al. 1987; Gundlach and Murphy 1993). It is considered to be closely related to mutuality, loyalty, and forsaking of alternatives that are at the core of 'relationalism' (Gundlach et al. 1995). Instead of making use of capital and resource dependencies to obtain commitment and control over system activities, the new organizational forms today depend much more on norms of sharing and commitment, based on trust (Achrol 1991).

Despite the significance of trust in business relationships, research on trust still has two main deficiencies. First, previous studies attempted to stretch the concept of trust from interpersonal towards interorganizational relationships (Das and Teng 2001; Zucker 1986) which resulted in a cross-level fallacy (Rousseau 1985), as the emotional characteristics of trust only make sense at the interpersonal level (Blois 1999). Second, despite the obvious benefits of trust, long-term business relationships not based on trust can exist (Lambe et al. 2000), as relationships between organizations are invariably based on considerations of mutual interest (Sebenius 1992).

To overcome the deficiency and fallacy of applying trust to the organizational level, Mouzas et al. (2007) have proposed a new relational construct of reliance for the study of interorganizational

relationships. In this paper, we use this conceptual innovation and distinguish between (interpersonal) trust and (interorganizational) reliance and aim to empirically validate the significance of the new construct of reliance in business relationships. We therefore contribute to a better understanding of the personal and structural/organizational drivers of business relationship characteristics and enhance the existing literature on trust in business relationships by clarifying the nuanced concept of reliance.

This paper is organized as follows: We start by providing a parsimonious review of the literature on trust and commitment. We identify our main constructs within a nomological model, and then develop our hypotheses for our empirical analysis. This is followed by a description of the research methodology for testing the hypotheses. We introduce our analyses and findings, using structural equation modeling. The study is concluded with a discussion of results, limitations and future research directions.

2. Trust and Commitment in Business Relationships

Embedded in the social aspect of exchange relationships (Singh et al. 2005), trust is a complex social phenomenon with a variety of definitions. It has been considered as a feature (Anderson et al. 1987; Crosby et al. 1990; Dwyer et al. 1987) or determinant of relationship quality (Doney and Cannon 1997; Ganesan 1994; Morgan and Hunt 1994). One of the most widely accepted conceptualization of trust is defined as ‘the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that party’ (Mayer et al. 1995, p.712).

Associated with its incongruous definitions, the domain of trust is used with imprecision. Trust is conceptualized in most studies as a multidimensional construct with diverse contents and a number of dimensions. Seppänen et al. (2007) summarize 21 different facets of trust used in empirical research, which comprise, for example, benevolence, credibility, reliability, and integrity. However, a considerable number of studies in marketing view trust as a belief, an expression of

confidence, or an expectation about an exchange partner's trustworthiness that results from the partner's expertise, reliability, or intentionality (Anderson and Narus 1990; Aulakh et al. 1996; Crosby et al. 1990; Ganesan 1994; Garbarino and Johnson 1999; Moorman et al. 1992; Morgan and Hunt 1994). Often the concept of trust is used reflecting two distinct main components: benevolence and credibility. Benevolence is based on the extent to which the partner believes that the other part has intentions and motives beneficial to the partner aside from an egocentric profit motive (Ganesan 1994; Mayer et al. 1995), and the credibility of an exchange partner relates to the expectation of the individual that the partner's statements can be believed (Lindsfold 1978).

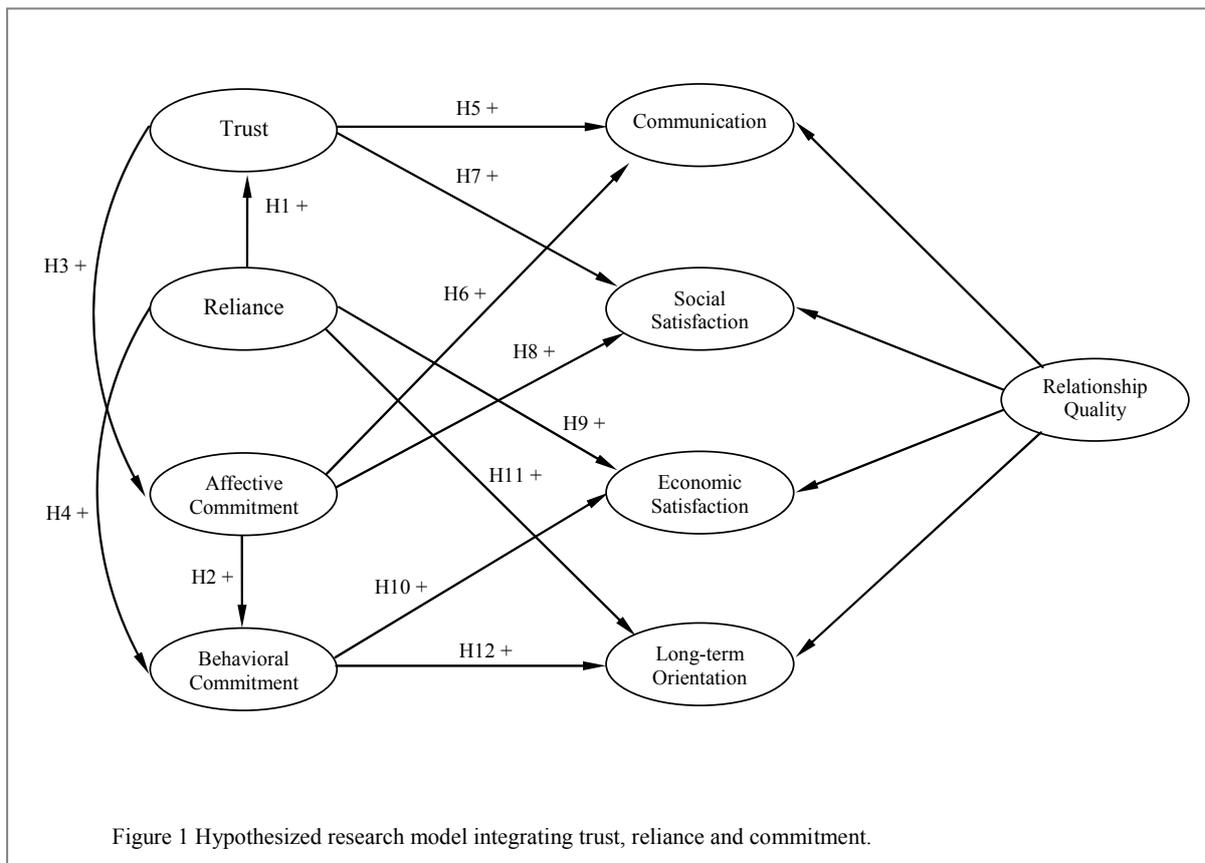
The other pivotal construct in the marketing literature associated with business relationship is commitment. This has been defined as 'an enduring desire to maintain a valued relationship' (Moorman et al. 1992, p. 316), 'a willingness to make short-term sacrifices to maintain the relationship' (Anderson and Weitz 1992, p.19), a belief that 'an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it' (Morgan and Hunt 1994, p.23), and 'an implicit or explicit pledge of relational continuity between exchange partners' (Dwyer et al. 1987, p.19). Prichard et al. (1999) point out that viewing commitment as a single or general trait is somewhat problematic, given the multiple conceptual ingredients in its definition. A review of past research in business marketing and beyond suggests that the dimensions of commitment are centered on psychological as well as on behavioral perspectives. For this reason we distinguish in this study between affective commitment and behavioral commitment. For the most part, commitment in marketing research on business relationships has been operationalised as affective commitment (Fullerton 2003), which is based on an emotional and social sentiment towards the exchange partner (Kelly 2004). Behavioral commitment on the other hand is defined as the extent to which a partner provides special help to its exchange partner in times of need (Kim and Frazier 1997). It is reflected in the actual behavior of this partner.

Organizational exchange occurs simultaneously at two levels which involves the interorganizational (dyadic) relationship of the firms, and the interpersonal interactions between the two parties' representatives (Tellefsen 2002; Turnbull et al. 1996). Considering that trust is initiated by persons instead of organizations, Mouzas et al. (2007) suggest the use of reliance for interorganizational relationships, while trust retains its role in interpersonal relationships. Thus, trust is not used in a way which would reify organizations, thus remaining an interpersonal construct. On the other hand, the rational standard of reliance does not depend on a stated commitment but is linked to the notions of 'reasonable expectations' (Steyn 1997), 'positive outcome' (Anderson and Narus 1990) and 'proven capability' (Blois 1999). As the counterpart of trust, reliance in interorganizational relationships refers to *positive expectations held by organization members that the focal organization's specific needs will be fulfilled by its exchange partner given the proven capability and exchange standards in place*. It does not indicate a degree of passiveness but results from one party's confidence and willingness to rely on one of its exchange partners. Compared to trust which is related to the acceptance of risks and vulnerability without rigorous mechanisms attached, reliance introduces an institutionalized standard and even penalty-based sanctions to enforce the promises and agreement made (Mouzas et al. 2007). Reliance structure is built upon the standards of rationality, calculability and enforceability.

3. Conceptual Framework and Hypotheses

In this study we distinguish between trust and reliance and aim to understand their impact on business relationship characteristics. To validate the distinct role of reliance, as well as to evaluate the effects of trust and commitment in business relationships, we developed the conceptual framework as expressed in the nomological model in Figure 1. In this model, the four key constructs of trust, reliance, affective commitment, behavioral commitment act as the antecedents to the business relationship quality which is characterized by communication, social satisfaction, economic satisfaction, and long-term orientation.

As a central characteristic in business networks and relationship marketing, relationship quality reflects the overall depth and ‘climate’ of the interfirm relationship (Johnson 1999). Past studies have widely conceptualized relationship quality as a multidimensional construct described by varying contents (Crosby et al. 1990; Cullen et al. 1995; Ivens and Pardo 2007; Kumar et al. 1995; Leonidou et al. 2006). Relationship quality in this study is defined as a higher-order factor formed by the four constructs of interorganizational communication, social satisfaction with the business relationship, economic satisfaction with the business relationship, and long-term orientation.



The nomological net as part of the overall conceptual model is made up of relationships between the pertinent latent constructs of our study. In the following, we will develop these relationships and form hypotheses which can subsequently be tested in an empirical study. We develop these hypotheses from the focal point of a buying company within a relationship with its suppliers.

Hypotheses Regarding the Antecedents of Relationship Quality

Trust and Reliance

The concept of reliance has its roots in constructs described as interorganizational trust (Zaheer et al. 1998), company trust (Chow and Holden 1997), cognition-based trust (Lewis and Weigert 1985; McAllister 1995), and competence trust (Das and Teng 2001). In their study of the effects of interpersonal trust and interorganizational trust on performance, Zaheer et al. (1998) found that there exists a positive relationship between the extent of interpersonal trust and interorganizational trust in an inter-firm dyad. Similarly, in a study aimed at understanding buyer's loyalty toward the selling firm, Chow and Holden (1997) found that interpersonal trust and the trust placed in the organization are highly related. The buyer who has confidence in the capability of the supplier trusts that if unforeseen events occur, the supplier will go beyond contractual obligation to ensure delivery (Blois 1999). In addressing the nature and functioning of relationships of interpersonal trust, McAllister's study (1995) strongly supported cognition-based trust as a positive predictor of affect-based trust. As Mouzas et al. (2007) suggested, inter-personal trust is a relevant but not in itself sufficient condition for the development of sustainable business relationships. On the other hand, reliance is a sufficient condition for the development of fast-developing and short-lived exchange relationships (Lambe et al. 2000). With the continuation of the business relationships, the buyer will place more trust in their counterpart when the promises made by the supplier are constantly fulfilled. In other words, the buyer who can rely on their supplier is expected over time to build up high levels of trust towards the counterpart. This leads to our first hypothesis:

H1: Buyer's reliance with regard to the supplier is positively related to its trust in the supplier.

Affective Commitment and Behavioral Commitment

As the two different aspects of commitment that respectively capture the emotional and behavioral dimensions, affective commitment and behavioral commitment are closely related (Molm et al. 2000). Venetis and Pervez (2004) point out that in the absence of a certain degree of (affective) commitment, behavioral intentions only indicate a transactional relationship rather than

a long-term cooperative one. In their study of distributor-supplier relationship, Kim and Frazier (1997) found affective commitment is strongly related to behavioral commitment which reflects strong economic and social bonds. Strong bonds, both business and personal, are likely to characterize an inter-firm relationship in which affective commitment is high (Kumar and Scheer 1995). In addition, Sharma et al. (2006) identified a strong correlation between affective commitment and behavioral commitment, and suggested 'behavioral commitment is a manifestation of different types of attitudinal commitments and underlying motives' (p.85). Consistent with the proposition made by Greun et al. (2000) which links affective commitment with the behavioral outcomes, we hypothesize that:

H2: Buyer's affective commitment is positively related to its behavioral commitment to the relationship.

Trust and affective commitment

Extensive studies exist in the literature with regard to the relationship between trust and commitment. As the two key mediating constructs, trust has been invariably justified as a positive factor leading to commitment (Coote et al. 2003; Geyskens et al. 1999; Moorman et al. 1992; Morgan and Hunt 1994; Nielson 1998). In the context of interpersonal trust and affective commitment, both are based on an attitude which is an affective evaluation of beliefs that guides people to adopt a particular intention (Lee and See 2004). Wetzels et al. (1998) showed that there is a positive relationship between trust and affective commitment. We can thus posit the following hypothesis:

H3: Buyer's trust in the supplier is positively related to its affective commitment to the relationship.

Reliance and behavioral commitment

The rational standard of reliance indicates that given the proven capability of the supplier, buyers can rely on their exchange partners and make great efforts to maintain the relationship.

Buyer's confidence of the positive outcome results in its desire to strengthen the ties with the supplier (Sharma et al. 2006), become more deeply involved in the relationship through investments of capital (Geyskens et al. 1996), and take affirmative actions to create a self-interested stake in the relationship (Gundlach et al. 1995). As Polo-Redondo and Cambra-Fierro (2008) suggest, firms tend to work systematically with suppliers that have proven ability (i.e. 'firms that satisfy their expectations'). Thus, if the buying company can rely on its supplier, it will strive to demonstrate its behavioral commitment to this supplier, therefore it can be hypothesized:

H4: Buyer's reliance with regard to the supplier is positively related to its behavioral commitment to the relationship.

Hypotheses Regarding the Interplay of Antecedents and Relationship Quality

Communication

Communication can be defined broadly as 'the formal as well as informal sharing of meaningful and timely information between firms' (Anderson and Narus 1990, p.44). Information exchange is an important aspect of relationship quality which defines 'a bilateral expectation that parties will proactively provide information useful to the partner (Heide and John 1992, p.35). Buyer's willingness to share information represents a safeguard to the supplier in the sense that the buyer can be expected to provide unforeseen information that may affect the operations of the supplier (Wilson and Nielson 2000). Past studies have consistently demonstrated the significance of communication in dyadic business relationships. Anderson and Narus (1990) suggested that after the establishment of business relationship, the accumulation of trust leads to better communication in subsequent periods. Several studies also support trust as the precursor of communication between the partners (e.g., Chow and Holden 1997; Sezen and Yilmaz 2007; Smith and Barclay 1997). Similarly, exchange partners who are affectively committed to the relationship have strong emotional bonds and goodwill towards the partner (Santos-Vijande et al. 2005), and are thus willing to exchange information and communicate openly. Sustaining sufficient communication with the partner in a relationship fosters confidence in the continuity of the relationship and reduces

dysfunctional conflict (Anderson and Weitz 1989). We therefore hypothesize with regard to the communication behavior of a buying company:

H5: Trust is positively related to communication.

H6: Affective commitment is positively related to communication.

Satisfaction

The satisfaction within a business relationships is defined most frequently as ‘a positive affective state resulting from the appraisal of all aspects of a firm’s working relationship with another’ (e.g., Anderson and Narus 1990; Frazier et al. 1989). A distinction between economic and social satisfaction is relevant since it allows to separate the social context in which the market exchange is developed from the economic one (Geyskens et al. 1999; Sanzo et al. 2003). Economic satisfaction refers to ‘a channel member’s positive affective response to the economic rewards that flow from the relationship with its partner’ (Geyskens et al. 1999, p.224). An economically satisfied partner in a business relationship considers it to be a success with respect to its goal attainment. Social satisfaction on the other hand is defined as ‘a channel member’s evaluation of the psychosocial aspects of its relationship, in that interactions with the exchange partner are fulfilling, gratifying, and facile’ (Geyskens and Steenkamp 2000, p.13). Social satisfaction thus refers to being satisfied with the social outcomes of the relationship, e.g. one side of an exchange may ‘appreciates the contacts with its partner, and, on a personal level, likes working with it, because it believes the partner is concerned, respectful, and willing to exchange ideas’ (Geyskens et al. 1999, p.224).

Satisfaction is a function of performance to date (Gustafsson et al. 2005), and a major driver of customer retention and loyalty (Chiou and Droge 2006). Past research has revealed that a firm’s satisfaction increases its long-term orientation and its willingness for continuity (Bolton 1998; Ganesan 1994; Selnes 1998). Furthermore, it reduces conflicts (Ganesan 1993). The construct of satisfaction is therefore of fundamental importance in understanding business relationships (Ruekert

and Churchill 1984) and is introduced into our model as a variable characterizing relationship performance and quality.

Empirical studies have demonstrated the significance of satisfaction as an outcome of trust (Geyskens et al. 1998; Razzaque and Boon 2003; Sanzo et al. 2003; Smith and Barclay 1997) as well as commitment (e.g., Leung et al. 2005; Mohr and Spekman 1994; Selnes 1998). Given the emotional core of the different constructs of interpersonal trust, affective commitment and social satisfaction, as well as the rational aspect of the constructs of reliance, behavioral commitment and economic satisfaction, we hypothesize:

H7: Buyer's trust is positively related to its social satisfaction with the relationship.

H8: Buyer's affective commitment is positively related to its social satisfaction with the relationship.

H9: Buyer's reliance with regard to the supplier is positively related to its economic satisfaction with the relationship.

H10: Buyer's behavioral commitment is positively related to its economic satisfaction with the relationship.

Long-term orientation

According to Ganesan (1994), long-term orientation refers to the perception of interdependence of outcomes in which both a supplier's outcome and joint outcomes are expected to benefit the buyer in the long run. Long-term orientation is associated with the concept of expectation of continuity of a relationship (Noordewier et al. 1990) which is extremely significant for firms in a business relationship (Ravald and Grönroos 1996). Both buyer and seller can achieve a competitive advantage from the long-term relationships with their partners (Ganesan 1994).

Past studies have shown long-term orientation as one of the key characteristics of relationship quality (Lee and Dawes 2005; Ganesan 1994). Extensive studies support trust (including reliance) as a precursor of long-term orientation (Doney and Cannon 1997; Ganesan 1994; Geyskens et al.

1998). According to Ganesan (1994), trust (or reliance) is a necessary antecedent for long-term orientation because it shifts the focus to future conditions. As we delineate two different facets of trust in our study, we posit that using the interorganizational aspect, i.e. reliance, as relating to long-term orientation is more appropriate. This is due to the rational perspective of reliance, which is congruent with the rationale of the construct of long-term orientation in business relationships (Mouzas et al. 2007). Therefore, we hypothesize:

H11: Buyer's reliance with regard to the supplier is positively related to its long-term orientation.

Commitment is also considered in several studies to be a fundamental antecedent of the long-term orientation of relationships (Polo-Redondo and Cambra-Fierro 2008). It represents the continuing intention to develop and maintain a long-term relationship (Geyskens et al. 1998; Gundlach et al. 1995; Venetis and Pervez 2004). Long-term buyer-seller relationships cannot be built and maintained without commitment between the exchange partners (Abdul-Muhmin 2002). Morgan and Hunt (1994) demonstrated a negative relationship between commitment and partner's propensity to terminate the channel relationship. To build a relationship characterized by long-term orientation, both parties need to demonstrate behavioral commitment by devoting time and providing special aid to their partner when assistance is requested. Since both the buyer and the supplier act in the interests for their organization, mutual benefits and goals can be more easily achieved if the relationship is oriented to the long term and maintained steadily (Jap and Ganesan 2000). We therefore posit:

H12: Buyer's behavioral commitment is positively related to its long-term orientation.

4. Research Method

To examine the nomological model as illustrated in Figure 1 and test the proposed hypotheses, a survey using key informants was used. The UK construction industry was selected for our empirical study due to its highly fragmented characteristic which allows us to have a large portfolio

of companies with varying sizes in our sample. The focus of our study is to investigate the buyer-supplier relationships from the buyer's perspective.

Construct Operationalization and Pre-test

The measures for most of the constructs were reviewed and adapted from the literature. For each construct, multiple-item measurement models rather than single-item indicators were used to avoid item response bias (Frazier et al. 1989). To develop the measure for the new construct of reliance, we conducted 20 in-depth interviews with company buyers responsible for the supply management, thus understanding how buyers in the construction industry perceive that they can rely on their suppliers. The content validity of these reliance items was further evaluated in a pre-test with 12 senior buyers, most of whom were purchasing managers or commercial directors. Finally, four items for measuring reliance were selected as part of the survey questionnaire.

Two steps were taken to pre-test the survey questionnaire. A first draft of the questionnaire was used with by executive MBA students across different industries. Based on their sample of 155 responses, we tested and purified the scale items. After that the revised questionnaire was sent to 12 key buyers in construction companies to assess their nomological validity. We conducted in-depth interviews with these buying managers concerning and reviewed the questionnaire based on their comments. After these two steps of pre-test questionnaire refinement, we started the empirical survey in the UK construction industry based on the revised questionnaire.

Survey Procedure and Sample

A sample of over 2000 construction companies was drawn from a commercial database. We only selected those companies with annual revenue over £5million in 2007. These companies were then contacted by phone to identify key informants with responsibility for the supply management (e.g., purchasing director, supply-chain manager). As a result, a total of 1133 companies provided contact details of at least one person responsible for supply management. Using telephone and email, we contacted these respondents directly to inform them of our study and invite them to

participate in an on-line survey. Following this, we sent the respondents a survey link which provided them with access to our questionnaire. Respondents were assured of data confidentiality. To encourage participation follow-up contacts were made by phone or email. We received a total of 636 usable responses from 404 firms, resulting in a company response rate of 35.7 percent which is comparable to the response rates reported in other similar studies (Jap and Ganesan 2000; McKee et al. 1992). A total of 73.8 percent of the participating companies in the sample had revenues over £10million in 2007. The demographic characteristic of the respondents suggests that they are very knowledgeable about their suppliers, with an average of 14.3 years of experience in supply management. In order to avoid effects related to relationship characteristics of the most important and dominant supplier, respondents were asked to answer the questionnaire for their third most important supplier in terms of purchase value. Results showed that the average length of the business relationships between construction companies and their third most important supplier is 12.5 years, which indicates well-formed and established relationships.

Measures

All the constructs used a 7-point Likert-type scale, with anchors ranging from 1 = strongly disagree, to 7 = strongly agree. For the single indicator of relationship quality, we used anchors of 1 = extremely low, and 7 = extremely high. The adoption of a 7-point scale reflects the fact that larger number of scale points increases the reliability of the measure (Churchill and Peter 1984). After reliability tests and factor analyses to identify items for deletion, Table 1 below gives the final items with the measure characteristics and standardized factor loading from a confirmatory factor analysis. All latent constructs are used via reflective measurement models (Jarvis et al. 2003), including the reflective second order construct of relationship quality (Hewett et al. 2002; Kumar et al. 1995).

Table 1
Items and measure characteristics

Constructs	Factor loadings ^a	t-values
Trust ($\alpha = 0.881$, CR = 0.884, mean = 4.79, std dev = 1.24, AVE = 0.657) ^b		
1. This supplier is open in dealing with us.	0.710	18.81
2. When making important decisions, the supplier is concerned about our welfare.	0.836	23.83
3. When we share our problems with the supplier, we know that it will respond with understanding.	0.876	25.67
4. In the future, we can count on the supplier to consider how its decisions and actions will affect us.	0.812	22.80
Reliance ($\alpha = 0.922$, CR = 0.924, mean = 5.39, std dev = 1.11, AVE = 0.753)		
1. We are confident with this supplier's ability to fulfill our agreements.	0.864	25.38
2. We are confident that this supplier is competent at what they are doing.	0.873	25.81
3. The performance of this supplier can always meet our expectations.	0.837	24.11
4. We have faith in the supplier's ability to fulfill their promises.	0.896	26.94
Affective Commitment ($\alpha = 0.868$, CR = 0.873, mean = 4.45, std dev = 1.45, AVE = 0.697)		
1. Even if we could, we would not drop the supplier because we like being associated with it.	0.759	20.51
2. We want to remain a member of the supplier's network because we genuinely enjoy our relationship with it.	0.920	27.28
3. Our positive feelings towards the supplier are a major reason we continue working with it.	0.818	22.84
Behavioral Commitment ($\alpha = 0.837$, CR = 0.841, mean = 4.63, std dev = 1.28, AVE = 0.726)		
1. We take a lot of time and effort to maintain the relationship with this supplier.	0.839	22.87
2. We endeavor to strengthen our ties with this supplier during the course of our relationship with them.	0.865	23.85
Communication ($\alpha = 0.881$, CR = 0.888, mean = 5.03, std dev = 1.39, AVE = 0.726)		
1. We always keep the supplier informed about events or changes that may affect the supplier.	0.830	23.40
2. We share much information with this supplier if it can be of help.	0.907	26.78
3. We exchange information with this supplier frequently and informally, not only according to a pre-specified agreement.	0.817	22.86
Social Satisfaction ($\alpha = 0.880$, CR = 0.886, mean = 5.08, std dev = 1.18, AVE = 0.661)		
1. We are satisfied with the social aspects of the relationship with this supplier.	0.747	20.20
2. Interactions between our firm and this supplier are characterized by mutual respect.	0.871	25.48
3. The working relationship of our firm with this supplier is characterized by feelings of harmony.	0.835	23.86
4. Our personal working relationship with this supplier is satisfactory.	0.794	22.10
Economic Satisfaction ($\alpha = 0.898$, CR = 0.899, mean = 5.10, std dev = 1.10, AVE = 0.690)		
1. Our financial performance from the relationship with this supplier is satisfactory.	0.796	22.19
2. Our investments of resources in this relationship (e.g. time and money) have paid off well.	0.807	22.68
3. We are satisfied with the financial gains from our business relationship with this supplier.	0.836	23.92
4. The contribution of this relationship to our total business performance is pleasing.	0.882	26.07
Long-term Orientation ($\alpha = 0.912$, CR = 0.916, mean = 5.40, std dev = 1.21, AVE = 0.783)		
1. Maintaining a long-term relationship with this supplier is important to us.	0.923	28.25
2. We focus on long-term goals in this relationship.	0.826	23.62
3. We expect this supplier to be working with us for a long time.	0.903	27.24
Dependence ($\alpha = 0.872$, CR = 0.873, mean = 3.12, std dev = 1.54, AVE = 0.697)		
1. If our relationship was discontinued, we would have difficulty replacing this supplier.	0.747	19.87
2. This supplier is crucial to our business.	0.902	25.79
3. Our firm would suffer greatly if we lost this supplier.	0.848	23.58
Overall Relationship Quality (mean = 5.27, std dev = 0.97)		
1. The overall quality of your relationship with this third most important supplier.		

Notes.

^a The factor loadings are standardized results. ^b α : Cronbach's alpha, CR: composite reliability, AVE: average variance extracted.

Trust

In line with the definition of trust as applied in many studies as a concept with the two distinct components of benevolence and credibility (or honesty) (Doney and Cannon 1997; Ganesan 1994; Geyskens et al. 1998; Hewett and Bearden 2001; Kumar and Scheer 1995; Sigauw et al. 1998), we measured trust by four items. Adapted from Ganesan (1994), the first item describes the dimension of credibility, i.e. buyer's belief that the supplier is open when dealing with them. Borrowed from Kumar and Scheer (1995), the last three items capture the dimension of benevolence, i.e. the buyer's anticipation that the supplier has beneficial intentions and motives (Ganesan 1994; Mayer et al. 1995), and will not take excessive advantage even when the opportunity is available (Muthusamy and White 2005).

Reliance

The measure of reliance was developed through 20 interviews with company buyers. Reliance results from organization members' positive expectations that they can rely on their company's exchange partner to deliver the benefits based on a conviction that mechanisms are in place to ensure this to happen. Four items were used in our study.

Commitment

As Prichard et al. (1999) suggest, viewing the construct of commitment as a single or general trait is somewhat problematic, given the multiple conceptual ingredients in its definition. We used five items to capture the attitudinal and behavioral perspectives of commitment. For affective commitment, or the extent to which the buyer feels sentimentally attached to the supplier, we used three items from Kumar and Scheer (1995). For behavioral commitment, we used two items adapted from Morgan and Hunt (1994) and Sharma et al. (2006) to reflect the extent to which the buyer takes time and efforts to maintain the relationship and strengthen the ties with the supplier.

Communication

Communication, defined as the formal and informal sharing of meaningful and timely information between the buyer and the supplier, is measured via a three-item scale adapted from Young-Ybarra and Wiersema (1999).

Satisfaction

Buyer's satisfaction is the positive affective state resulting from the appraisal of all aspects of the relationship with the supplier (Anderson and Narus 1990). Most studies in the literature conceptualize satisfaction as a construct of overall satisfaction measured with a single scale (e.g., Ganesan 1994; Mohr and Spekman 1994; Scheer and Stern 1992). In our study we distinguish between social satisfaction and economic satisfaction, and use two different measurement models for their measurement. For social satisfaction, we used four items adapted from Geyskens and Steenkamp (2000) and Lee et al. (2004) to measure the buyer's satisfaction with the social outcomes of the relationship with the supplier. The measure for economic satisfaction was adapted from Selnes and Sallis (2003), Chatterjee (2004), and Lin and Germain (1998), given that there is no single scale available in the literature for its measure. This measure indicates the extent to which the buyer is satisfied with the economic rewards that flow from the relationship with the supplier.

Long-term orientation

In line with Ganesan (1994), long-term orientation refers in our study to the perception of interdependence of outcomes in which both a supplier's outcomes and joint outcomes are expected to benefit the buyer in the long run. This study used a three-item scale adapted from Ganesan (1993) to evaluate buyer's long-term orientation with the supplier.

Overall relationship quality

Relationship quality in our study is conceptualized as a higher-order construct composed of communication, social satisfaction, economic satisfaction and long-term orientation. To test this higher-order construct, we also measured relationship quality with a single item adapted from Lee et al. (2001), indicating the buyer's overall perception of the quality.

Control variables

We control for the level of dependence between buyer and seller, the relationship length, and respondents' supply management experience. Dependence is considered to be important in explaining interorganizational relationships and exchanges. The dependence of one party on its exchange partner refers to the extent to which it needs to maintain the channel relationship in order to achieve its desired goals (Frazier 1983). The two key features of this construct are benefits and replaceability (Tellefsen and Thomas 2005). The characteristics of benefits indicate the importance of the resources received from the source firm, while replaceability refers to the availability of alternate sources for the needed resources (Frazier and Rody 1991). We used three items for the measure of dependence. The first two items were adapted from Ganesan (1994), and the last item was from Kim and Ping-Huang (2003). Relationship length was measured in years, as was the respondents' supply management experience.

5. Analysis and Results

We followed the two-step approach suggested by Anderson and Gerbing (1988) to assess the measurement models and the structural equation model. Before doing so, we checked for non-response bias and common method bias.

Non-response bias

We did not use the common Armstrong and Overton's (1977) method as it does not measure non-response bias but early/late-response differences. To check for non-response bias, we conducted telephone survey with a sample of contacts who did not respond to the survey. In the short telephone survey, we briefly asked the buyers a subset of the overall questionnaire. We obtained a sample of 100 responses which was compared with the original data sample. Statistical t-test showed that there is no significant difference between these two samples. Thus, non-response bias is assumed not to be a problem in our data.

Common method bias

Common method bias is an underlying problem in behavioral research. We first adopted the widely used Harman's single-factor test (Podsakoff et al. 2003) to check for common method bias. We thus load all measurement variables into an exploratory factor analysis and examine the unrotated factor solution. The results showed that neither a single latent factor emerged from the factor analysis nor a single factor can account for all the variance in the data. The unrotated solution generated five components which account for 70% of the total variance in the data. The first factor only accounts for 45.0% of the total variance in the data. Second, we used multi-group analysis to inspect common method bias. The structural model was cross-validated with two data samples (split-half method) from the 210 companies which provided more than one responses. Using a tight replication strategy (Diamantopoulos and Siguaaw 2000), we specified that all the parameters estimated in the model are the same across the two samples. The goodness-of-fit indexes ($\chi^2_{(678)} = 1378.45$, CFI = 0.979, RMSEA = 0.072) showed that we do not have a problem with common method bias in our data.

Measurement model

After item purification, we retained all the final pool of items which were subjected to exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Table 2 below displays that all measurement items load on their expected construct, with no significant cross-loadings. After the exclusion of a few outlier cases, we examined the measurement model with the final sample of 606 responses from 391 firms (210 firms provide more than 1 response). Our measurement model suggests a good fit (Marsh et al. 1996) to the data with the fit statistics as: $\chi^2_{(369)} = 915.97$, Comparative Fit Index (CFI) = 0.989, Non-Normed Fit Index (NNFI) = 0.988, Root Mean Square Error of Approximation (RMSEA) = 0.053.

Construct reliability

Both the Cronbach’s alpha and composite reliability estimates suggest good internal reliability for all the scales in our study. Results in Table 1 show that all scales have reliability above 0.80 which exceed the minimum criterion of 0.70 (Peter 1979). Particularly, the reliability for the newly developed scale of reliance is 0.922 (Cronbach’s alpha) which indicates strong internal consistency.

Table 2
Exploratory factor analysis for the measurement variables

	Component								
	1	2	3	4	5	6	7	8	9
R1	.641								
R2	.804								
R3	.791								
R4	.764								
D1		.858							
D2		.860							
D3		.905							
C1			.811						
C2			.900						
C3			.865						
AC1				-.930					
AC2				-.768					
AC3				-.670					
LO1					-.817				
LO2					-.853				
LO3					-.803				
ES1						.800			
ES2						.770			
ES3						.904			
ES4						.683			
T1							-.535		
T2							-.757		
T3							-.685		
T4							-.759		
SS1								-.742	
SS2								-.739	
SS3								-.778	
SS4								-.708	
BC1									-.795
BC2									-.755

Construct validity

Convergent validity, discriminant validity, and nomological validity were checked. Table 3 below gives the average variance extracted (AVE) for each scale (diagonal elements) and the squared correlation between all pairs of scales (off-diagonal values). An examination of Table 3

reveals that all the diagonal values are greater than 0.5 which supports convergent validity (Shook et al. 2004). Besides, all AVEs are greater than the off-diagonal elements. This suggests discriminant validity for each of the construct measures (Peter 1979). Therefore, construct validity is supported in this study. The nomological validity is also supported in that the latent constructs in our study are correlated with other related constructs which are consistent with the literature.

Table 3
Average variance extracted and squared correlation for all scales.

Variables	1	2	3	4	5	6	7	8	9
1. Trust	0.657								
2. Reliance	0.602	0.753							
3. Affective Commitment	0.375	0.271	0.697						
4. Behavioral Commitment	0.334	0.259	0.508	0.726					
5. Communication	0.371	0.309	0.165	0.327	0.726				
6. Social Satisfaction	0.558	0.518	0.384	0.384	0.500	0.661			
7. Economic Satisfaction	0.527	0.542	0.304	0.296	0.375	0.618	0.690		
8. Long-term Orientation	0.396	0.426	0.341	0.424	0.335	0.534	0.581	0.783	
9. Dependence	0.141	0.086	0.175	0.221	0.088	0.115	0.107	0.173	0.697

Relationship quality as a higher-order factor

This study conceptualized relationship quality as a reflective second-order factor described by the four first-order latent variables: communication, social satisfaction, economic satisfaction and long-term orientation. Confirmatory factor analysis supported this proposition with good fit statistics: $\chi^2_{(73)} = 205.22$, CFI = 0.992, RMSEA = 0.057. All the factor loadings between the first and second order factors are significant (communication: 0.73, social satisfaction: 0.90, economic satisfaction: 0.88, long-term orientation: 0.83). We further compared the two measures of relationship quality, one as a second-order latent variable and the other measured directly with one single item indicating overall relationship quality. The Spearman correlation test showed that these two variables are strongly related, with a correlation coefficient of 0.710. This adds support to our measure of relationship quality as a higher-order construct.

Structural model

The structural model of Figure 1 is estimated using maximum likelihood (ML) estimation with LISREL 8.70 (Jöreskog and Sörbom 2004). ML is one of the most widely used estimation methods for structural models which provides consistently efficient estimation under the assumption of multivariate normality and is relatively robust against moderate departures from the latter (Diamantopoulos and Siguaw 2000). After the deletion of a few outlier cases which significantly violate the multivariate normality assumption, the structural model was estimated. The fit statistics $\chi^2_{(306)} = 939.57$, CFI = 0.987, RMSEA = 0.063 suggest a good fit to the data. The results, shown in Table 4 and Figure 2, indicate strong support for eleven paths in the proposed model with very significant *t*-values at the 0.01 significance level. One hypothesis (H6), the effect of affective commitment on communication, is not supported with an insignificant path coefficient of 0.04.

Table 4
Structural model estimation results

Hypothesis	Path	Parameter	Coefficients	t-value	Result
H1	Reliance->Trust	γ_{11}	0.66	16.31	Supported
H2	AC->BC	β_{32}	0.64	12.53	Supported
H3	Trust->AC	β_{21}	0.76	11.95	Supported
H4	Reliance->BC	γ_{31}	0.18	4.16	Supported
H5	Trust->Communication	β_{41}	0.73	9.91	Supported
H6	AC->Communication	β_{42}	0.04	0.82	N.S.
H7	Trust->SS	β_{51}	0.78	11.26	Supported
H8	AC->SS	β_{52}	0.22	5.04	Supported
H9	Reliance->ES	γ_{61}	0.64	13.61	Supported
H10	BC->ES	β_{63}	0.21	5.19	Supported
H11	Reliance->LTO	γ_{71}	0.43	10.35	Supported
H12	BC->LTO	β_{73}	0.41	9.61	Supported

Model invariance

Multi-group analysis was used to cross-validate the structural model. We split the original survey data into two samples based on the supply management experience of the respondents in

each company. Sample one contains data from respondents who are more senior in their company (if there are more than one response from a company) than their peer counterpart in sample two. The tight replication strategy in LISREL was used to test the assumption that all the parameters in the model are the same across these two samples. The fit statistics are $\chi^2_{(678)} = 1461.07$, CFI = 0.984, RMSEA = 0.064 suggests a good fit with the data, thus supporting model invariance for our causal structural model.

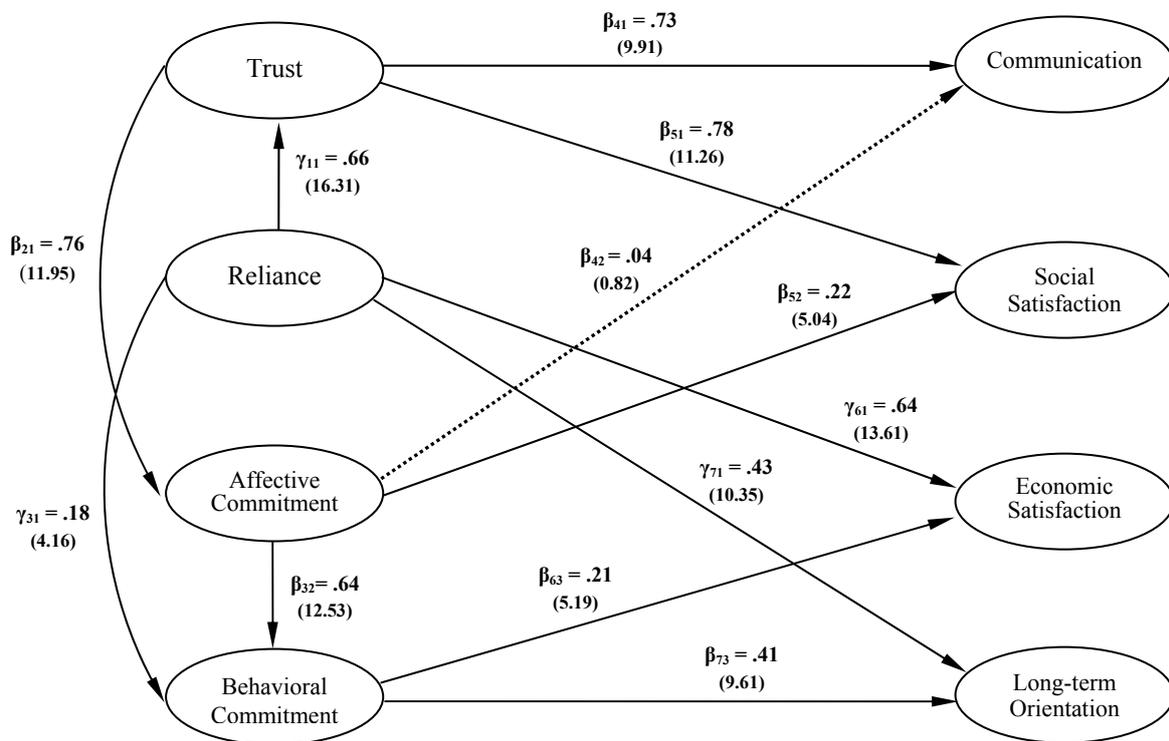


Figure 2 Structural equation modeling of the hypothesized research model.

Moderating effects of the control variables

We further tested if the causal structure has an invariant pattern by investigating the moderating effects of the control variables. This study controlled for length of business relationship, respondent's supply management experience, and dependence level of the relationship. Analysis showed that the invariance of the model is unchanged by these control variables. For instance, to

examine the effects of relationship length we created two samples. The first sample contains 251 responses with the estimated relationship length greater than or equal to 10 years, while the second sample includes 331 responses with relationship length below 10 years. Using again tight replication strategy, we found that the causal model is invariant across these two samples with fit statistics as $\chi^2_{(678)} = 1390.51$, CFI = 0.985, RMSEA = 0.064. Similarly, we used tight replication strategy to examine the possible moderating effect of supply management experience by splitting the data into two samples. The first sample comprises data from 276 senior respondents with at least 15 years of supply experience, and the second sample contains data from 305 junior respondents with supply experience below 15 years. Again, the assumption of model invariance is supported by the fit statistics as: $\chi^2_{(678)} = 1414.67$, CFI = 0.984, RMSEA = 0.067.

Our interviews in the construction industry revealed that buyers can usually find alternative suppliers for necessary products or service. The survey data analysis also showed that the dependence level in the construction industry is low for most of the firms. To examine the effect of dependence, we created two samples which were used to compare the path coefficients among the constructs. The first sample contains 150 highly dependent relationships, while the second sample is characterized by 200 business relationships with low dependence level. Since the sample size is not sufficient to perform structural equation modeling (the effective size is 140 after the deletion of 10 incomplete cases), we used partial least squares (PLS) in SmartPLS 2.0 (Ringle et al. 2005) for the analysis. Results showed that the PLS model estimated with these two separate samples produced equivalent path coefficients to the LISREL model estimates with the full sample, with the only exception that in the high-dependence PLS model the direct path effect from reliance to behavioral commitment becomes insignificant. Thus, we assume that our model is free of the effect of dependence.

6. Discussion

This study found that interorganizational reliance has a positive and significant effect on interpersonal trust. This is consistent with the results from Zaheer et al. (1998) who found a positive relationship between the extent of interpersonal trust and interorganizational trust in an inter-firm dyad. This indicates that the buyer who relies on a supplier can build up interpersonal trust towards the exchange partner. As the relationship develops, the buyer will be more willing to trust the supplier if the supplier can constantly deliver what has been promised, and the buyer can rely on this to happen, thus satisfying the buyer's need. The rational standard requires that the buyer is motivated to maximize the organizational benefits before placing trust in the supplier, reflecting cognition-based reliance as a positive predictor of affect-based trust in McAllister's (1995) study. As such, we clarify the empirical properties of interorganizational reliance vis-à-vis interpersonal trust which have been proposed by Mouzas et al. (2007).

Both reliance and affective commitment were found to be positively related to behavioral commitment. Reliance is based on the buyer's positive expectations that the focal firm's particular needs will be reliably fulfilled by the supplier, thus it is worth time and efforts to maintain the relationship and make investment in it. On the other hand, the buyer may also be committed to the relationship in a behavioral manner, resulting from their strong sentiment that they ought to cooperate and provide special help if requested by the supplier. This enduring desire drives the buyer to continue the relationship with its maximum effort.

Consistent with the literature, positive effects of trust on affective commitment, communication, and social satisfaction are supported. This substantiates the position of trust as an important variable in buyer-supplier relationships which can minimize the perception of risk, increases the confidence and reduces the transaction costs in an exchange relationship (Ganesan 1994). Affective commitment is also found to be positively related with social satisfaction, although the hypothesis that it is also positively related to communication is not supported. This may indicate

that while the buyer has strong psychological attachment to the supplier, it considers the company information so confidential as not to be shared with the supplier.

As the antecedents to economic satisfaction and long-term orientation, both reliance and behavioral commitment were found to have strong and positive effects. Economic satisfaction has the fundamental significance in that it is a function of financial performance to date which reflects the economic benefits that the buyer received from the relationship. For the sake of an organizational advantage, the buyer cannot optimistically rely on the supplier without benefits achieved, and thus cannot commit to the relationship. Therefore, reliance and behavioral commitment manifest themselves as important precursors to economic satisfaction. On the other hand, long-term orientation refers to the buyer's motivation to have a long-term goal in the relationship. It reflects the buyer's perception that the business relationship can be beneficial in the long run. Long-term goals cannot be developed without the supplier's consistent delivery of what the buyer has requested, thus increasing the buyer's confidence to rely on the supplier. The positive effect of behavioral commitment in our study implies that the buyer is prepared to develop and maintain a long-term relationship with the supplier based on considerations of the gains achieved from the relationship.

Finally, to compare the significance of interorganizational reliance with interpersonal trust, we added two new paths from trust to long-term orientation as well as from affective commitment to long-term orientation, and the structural model was re-estimated. The results showed that trust (t value = 1.24) and affective commitment (t -value = 1.57) are not significant to long-term orientation at the 5% significance level, while reliance (t -value = 5.51) and behavioral commitment (t -value = 5.84) remained extremely significant for the latter. The direct effect of trust on long-term orientation is 0.09 (standardized path coefficient), compared to the direct effect of reliance with path coefficient of 0.36. The fit statistics are: $\chi^2_{(304)} = 934.23$, CFI = 0.987, RMSEA = 0.063. We further compared the original model with the new model with the two new paths added. The change

in the chi-square value ($\Delta\chi^2$) is 5.35 with 2 degrees of freedom which is not significant at the 5% significance level. Hence, the two new routes added have no significant effects on the model. This analysis indicates that interpersonal trust (and affective commitment) is not a determinant of long-term orientation, but reliance is a key factor for companies to develop a long-term goal with their suppliers. Since organizations invariably consider for their own benefits, the rational objective of the companies requires that interorganizational reliance becomes a more central theme in business relationships than interpersonal trust. This adds support to the proposition made by Madhok (2006) that “*the social component of trust is necessary but not sufficient for the sustained continuation of interfirm relationships*” (p. 33), as well as the proposition made by Mouzas et al. (2007) that “Reliance is a necessary and sufficient condition for the development of expedient business relationships” (p. 1025).

7. Limitations and Future Research

Limitations

This study has four main limitations. First, this research was particularly focused on a single industry and a specific country. For instance, the scale developed for the construct of reliance (i.e., measurement items describing how buyers generally rely on their supplier) was based on our interviews in the UK construction industry. Besides, the results of the hypothesized model were estimated with data collected from a survey in the UK construction industry. The relationships among the constructs may be subject to change in other industries as part of a cross-industry sample. Second, our study investigates the relationship between the buyer and their third most important suppliers, instead of the relationships with a portfolio of suppliers. This creates the effect that respondents focus their answers on a single supplier, rather than considering a broader picture of important business relationships. Third, while we examined the significant outcomes of the key constructs (i.e., trust, reliance and commitment), we did not investigate the antecedents of these variables. For instance, social bonding could be considered to be a significant influence on trust as well as on affective commitment. Finally, our examination of buyer-supplier relationships was

based on the buyer's perspective, rather than from both sides of the relationship with dyadic data collected. This is due to the fact that, as academics generally agree, collecting dyadic data is very difficult with daunting practical problems arising (Weitz and Jap 1995).

Future Research

Confronted with the limitations in our study, we propose future research that could follow on from our work. First, our understanding and development of reliance was focused in the UK construction industry. Researchers may continue to examine the contents and mechanisms of reliance in other industries or countries. Our scale for measuring reliance may need to be adapted or even re-developed to cope with other research contexts. Second, researchers can also aim to understand how the rational standard of reliance is institutionalized to facilitate and promote business relationships between exchange partners. Third, the importance of interorganizational reliance in the UK construction industry has been validated in our study by examining its effects on the indicators of relationship quality. Future studies ought to investigate the effects and consequences of reliance in other industries, countries, or even cross-industries or cross-countries. Our study was focused in the UK where business relationships are well-formed with high rational standards for organizational interactions. However, business in developing countries puts arguably more focus on personal relationships. For instance, Kühlmann and Schumann (2002) found that business in Mexico has higher interpersonal trust than that in Germany, while in Germany interorganizational trust is higher. Fourth, future research can be directed to identifying the key factors that can enhance interorganizational reliance. These precursors can directly influence reliance, and thus indirectly relate to key relationship characteristics such as economic satisfaction and long-term orientation. Finally, researchers can also change the direction of their viewpoint by assessing reliance from the supplier's perspective. It is particularly interesting and relevant to see if and how suppliers have different understandings of interorganizational reliance than their counterparts in business exchanges.

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