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Inter-relationships among focal dimensions in relationship quality: a quantitative and exploratory approach

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Abstract: It is generally agreed that the relationship quality (RELQUAL) in business exchange situations is important. However, there does not appear to be a consensus on the conceptualisation and measurement of the many dimensions of this construct. This may be due to the difficulty in measuring many dimensions in one empirical study. This raises a concern regarding the understanding of the interaction among the various dimensions. Using data gathered in a survey of Canadian managers and executives the present study investigates how focal dimensions pertaining to RELQUAL inter-relate. A model consisting of the following ten dimensions derived from RELQUAL literature was tested: continuity, satisfaction, trust, commitment, opportunism, cooperation, coordination, formalisation, dependence, specific assets. All recommended guidelines for convergent, discriminant and nomological validity, as well as construct reliability, were met.

Keywords: RELQUAL; relationship quality; satisfaction; formalisation; specific assets; trust; commitment; opportunism; cooperation; coordination; continuity; dependence; Canada; B2B.

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Tore Mysen is an Associate Professor at Oslo School of Management, Norway. He received his PhD at Norwegian School of Management BI. He has a background as an entrepreneur and from management and board positions within telecommunication industry. His research agenda consists of various subjects within inter-firm relationships, such as: governance of foreign collaborative partners, coordination and cooperation, relationship management, RELQUAL and relationship climate. He has published in various international journals. Furthermore, he is a member of editorial boards and is committed as track chair and session chair at conferences.

1 Introduction

According to Lages et al. (2008), the quality of the buyer-supplier relationships affects loyalty and profitability for both parties. For example, good relationships with the buyer increases the feasibility to expand services and reduce transaction costs (Dyer and Chu, 2003; Lee and Koh, 2009). For the buyer, a stable and satisfying relationship with the supplier secures necessary deliveries of goods and services, and reduces risks caused by volatile market conditions (Ono, 2009; Skarmeas et al., 2008). In summary, it is generally agreed that the relationship quality (RELQUAL) in business exchange situations is important. However, there does not appear to be a consensus on the conceptualisation and measurement of the RELQUAL construct (Athanasopoulou, 2009; Huntley, 2006; Hutchinson et al., 2010; Skarmeas et al., 2008) and the complex interrelationships of the quality dimensions of core relationships are still not very well understood [Ha and Muthaly, (2008), p.33]. Few studies have centred on testing additional dimensions pertaining to RELQUAL, or challenged established inter-relationships among different dimensions. The present study addresses how focal dimensions pertaining to RELQUAL inter-relate.

Given the need for testing inter-relationships among the dimensions of RELQUAL, it will be valuable to examine how previously investigated dimensions of the RELQUAL construct inter-relate without the antecedents and outcomes of particular dimensions comprised by RELQUAL (Lages et al., 2005; Palmatier et al., 2006). Therefore, the

objective is to test a measurement model of RELQUAL in Canadian exchange relationships. It may generate directions for what dimensions to include in the formation of a business relationship strategy in order to gain increased efficiency. Moreover, the results may indicate which dimensions to consider in future research.

Based on a review of the RELQUAL literature (Everling, 2009; Lages et al., 2005; Mysen and Svensson, 2010; Palmatier et al., 2006) the current study presents an expanded conceptual framework that includes a selection of ten relationship constructs. This larger number of items provides a multidimensional framework of business exchange relationships.

This paper is organised as follows:

- 1 initially, the frame of reference is described
- 2 the methodology is presented
- 3 the conceptual framework is tested and conclusions are drawn, and finally
- 4 limitations and suggestions for further research are provided.

2 Frame of reference

Previous conceptual models and empirical studies have included different facets of organisations. These facets include channel behaviours (Anderson and Narus, 1990; Su et al., 2008), relational exchanges (Dwyer et al., 1987), transaction cost economics (Heide, 1994; Heide and John, 1990), interaction and networks (Håkansson, 1982; Håkansson and Snehota, 1995) and RELQUAL (Crosby et al., 1990; Dwyer et al., 1987; Kumar et al., 1995b). This study considers the RELQUAL construct to be a higher order construct (Lages et al., 2004, 2005) in business exchange relationships. Recent publications have used the term ‘umbrella construct’ when referring to the RELQUAL construct because of the many first-order constructs (Caceres and Paparoidamis, 2007; Mysen and Svensson, 2010; Payan et al., 2010).

A review of the selected sources in the literature, starting with Morgan and Hunt’s (1994) KMV model of relationship marketing, (Table 1) indicates that different dimensions associated with organisations working together (B2B) may constitute RELQUAL. In the following section, we present and elaborate on these focal dimensions in RELQUAL research.

2.1 Continuity expectancy

As suggested by Rauyruen and Miller (2007), relationship continuity in this study is taken as a composite measure of relationship loyalty regarding aspects of behaviour and attitude. In this investigation, continuity reflects expectations of relationship duration, and of observations of the buyer-supplier contracting processes (Anderson and Weitz, 1989). Commitment is expected to be different from continuity, and to affect continuity expectations positively (Goodman and Dion, 2001; Kumar et al., 1995a; Morgan and Hunt, 1994; Morse, 1994; Rauyruen and Miller, 2007). According to Kumar et al. (1995a), commitment is the desire to continue a relationship, while continuity expectancy “incorporates the firm’s perception of both its own and its partner’s intent to remain in a relationship” (p.351).

Table 1 RELQUAL – dimensions of measurement model

| <i>Dimension</i> | <i>Literature</i> | <i>Source</i> |
|------------------|----------------------------|---|
| Continuity | Relationship marketing | Lusch and Brown (1996), Kumar et al.(1995b) |
| Satisfaction | Relationship marketing | Rauyruen and Miller (2007) Skarmeas et al. (2008) Barry et al., (2008) Sahadev (2008) Ha and Muthaly (2008) |
| Trust | Relationship marketing | Geyskens and Steenkamp (1995) Razzaque and Boon (2003) Rauyruen and Miller (2007) Su et al. (2008) |
| Commitment | Relationship marketing | Morgan and Hunt (1994) Fullerton (2003) Stanko et al. (2007) |
| Opportunism | Transaction cost theory | John (1984) Provan and Skinner (1989) Dahlstrom and Nygaard (1999) |
| Cooperation | Relationship marketing | Håkansson (1982) Morgan and Hunt (1994) Gummesson (2002) |
| Coordination | Relationship marketing | Alter and Hage (1993) Anderson et al. (1994a) |
| Formalisation | Transaction cost theory | John (1984) Dahlstrom and Nygaard (1999) |
| Dependence | Resource-dependence theory | Lusch and Brown (1996) |
| Specific assets | Transaction cost theory | Weiss and Anderson (1992) Rindfleisch and Heide (1997) |

This study is likely to be among the first few to include relationship continuity as a construct in a RELQUAL model. There is a paucity of studies on relationship continuity in B2B contexts (Kumar et al., 1995a, 1995b; Rauyruen and Miller, 2007) and this study is one of the first few to model the construct as a dimension in a RELQUAL examination (Lee et al., 2010b). To a great extent the question of how continuity relates to the other constructs is still unresolved. However, the relationship between continuity and relationship satisfaction, and the importance of continuity in a business relationship, have been identified by Shamdasani and Sheth (1995). The results of their examination of managers with business alliance experience in the USA support the argument that “satisfaction is positively related to continuity since a satisfied firm is more likely to maintain its ongoing relationship” [Shamdasani and Sheth, (1995), p.17]. This study considers continuity as an essential in business relationships, and an important construct when testing a measurement model of RELQUAL.

2.2 *Satisfaction*

Satisfaction is generally considered an important influence of RELQUAL in exchange relationships (Duarte and Davies, 2004; Huntley, 2006; Skinner et al., 1992; Walter et al., 2003). Satisfaction has been defined as a positive effective state based on the appraisal of all aspects of an organisation's working relationship with another organisation (Anderson and Narus, 1990; Geyskens et al., 1999; Walter et al., 2003).

According to Skarmeas et al. (2008) "...satisfaction is viewed as an essential part of successful relationships in a number of inter-firm studies for over three decades..." (p.25), and should therefore, be included in testing a measurement model of RELQUAL (Uлага and Eggert, 2006; Wong and Zhou, 2006). However, the review of the literature suggests that there is no consensus about the positioning of satisfaction within RELQUAL research. For example, some studies position satisfaction, together with trust and commitment, as a dimension of a higher order construct labelled 'RELQUAL' (Hutchinson et al., 2010; Rauyruen and Miller, 2007; Roberts et al., 2003; Skarmeas and Robson, 2008; Ural, 2009). Other studies position satisfaction as an antecedent to trust and commitment (Moliner et al., 2007a, 2007b), as an outcome of trust and commitment (Farrelly and Quester, 2005; Lee et al., 2010a), or as a mediator between trust and commitment and to other outcomes (Barry et al., 2008).

2.3 *Trust*

Like satisfaction, trust is also considered an important dimension of the RELQUAL construct (Walter et al., 2003). Ha and Muthaly (2008) suggests that "trust supports a working relationship" (p.38). "Generally, the strength and quality of a relationship rely on the level of trust – the higher the trust level, the stronger the relationship will be" (Ndubisi et al., 2011). Trust, as opposed to distrust or opportunism within an exchange relationship, can be considered an expectation that another organisation can be relied upon to fulfil its commitments and obligations, and that it will act and negotiate fairly even if the possibility for opportunism is present (Zaheer et al., 1998). It has been suggested that an organisation that trusts an exchange partner will attribute cooperative intentions to the trusted organisation (Geyskens and Steenkamp, 1995). Trust also provides assurances that desired outcomes will be achieved, which should lead to greater cooperation between organisations (Andaleeb, 1995; Duarte and Davies, 2004; Razzaque and Boon, 2003).

In addition, research suggests that there is a correlation between exchange organisations that trust each other and their participation in cooperative activities. However, it is not clear where the participation in the joint activity influences trust in the relationship or whether trust leads to an increase in joint activities (Weitz and Jap, 1995; Wiertz et al., 2004; Wilson and Nielson, 2001). This study takes the position of those researchers who suggest that trust is necessary in inter-organisational joint activities (Deutsch, 1962; Duarte and Davies, 2004; Morgan and Hunt, 1994; Pruitt, 1981; Smith and Barclay, 1999; Wiertz et al., 2004).

Word of mouth, advertising, reputation and previous history can all influence the perception of a potential exchange partner's trust in another organisation, which can be the basis for entering a coordinated activity (Boersma et al., 2003). In addition, prior to entering into a cooperative activity the integrity (trust) of the potential exchange partner is probably considered since any joint activity entails at least some increased

vulnerability, and organisations will not accept this increased vulnerability without believing in the integrity of one another (Wiertz et al., 2004). It is generally accepted that trust in an exchange relationship reduces the transaction costs (contracts), because of a reduced perception of opportunism within the partnership (Chiles and McMackin, 1996). According to Young and Wilkinson (1989) and the transaction cost analysis (TCA) theory, “when exchanges take place in an atmosphere of trust and commonality of purpose, transactions are less costly to complete.” (p.111). The current study considers trust essential in exchange relationships, and positions trust as an important construct in testing a measurement model of RELQUAL.

2.4 Commitment

Affective commitment, a widely studied variable in both organisational and consumer behaviour, is an emotional attachment (dedication-based) to an organisation (Cater and Cater, 2010). For example, affective commitment would be a favourable attitude, feeling or level of identification with an organisation. This study defines commitment as an affective or enduring desire to maintain an exchange relationship. According to Anderson and Weitz (1992), “commitment to a relationship entails a desire to make short-term sacrifices to maintain the relationship, and a confidence in the stability if the relationship” (p.19). The willingness to make sacrifices is linked to a cooperative orientation, or a spirit of willingness to work (or invest in a relationship) with another organisation (Wetzels et al., 1998).

Coordination (activities performed to achieve a goal) is very close in meaning to cooperation (intended willingness of organisations to work with others) yet distinct because coordination reflects behaviours and cooperation reflects the intention (Payan and Svensson, 2007). Morgan and Hunt (1994) reason that commitment also leads to coordination, because a committed exchange partner will participate in joint activities out of a desire to make the relationship work. According to Dickinson and Ramaseshan (2004) commitment of an exchange partner is also hypothesised to affect a strategic response based on the knowledge that a committed organisation is likely to spend (or invest) time and effort on developing effective strategies and environmental scanning. For example, according to Dieke and Karamustafa (2000), committed organisations may coordinate their marketing activities.

In this study, commitment is positioned as an important construct in testing a measurement model of RELQUAL as the relationship between commitment and other dimensions underpinning RELQUAL is supported in empirical research (Dickinson and Ramaseshan, 2004; Evangelista, 1994; Faulkner, 1995; Morgan and Hunt, 1994; Rauyruen and Miller, 2007).

2.5 Opportunism

According to Muris (1981) opportunism can arise when an organisation “behaves contrary to the other party’s understanding of their contract, but not necessarily contrary to the agreement’s explicit terms, leading to a transfer of wealth from the other party to the performer” (p.521). According to the theoretical framework developed by Williamson (1975, 1985), opportunism is also a “...self-seeking behaviour with guile...” (p.26). The term guile involves “...deceitfulness...”, “...a lack of candor or honesty in transactions...” (p.9).

According to Ghoshal and Insead (1996), individuals do not always behave opportunistically even if the circumstances permit such behaviour. However, organisations are advised to “recognise that opportunistic conduct may arise both during negotiations and the administration of an exchange relationship” [Gundlach et al., (1995), p.84]. Wathne and Heide (2000) suggested that opportunism may be viewed as passive or active with different outcomes. For example, passive opportunism pertains to forgetfulness or unwillingness to report performance correctly, while active opportunism relates to cheating on a partner, or under-supplying product.

As suggested earlier, the risk of opportunism (refusal to honour agreements and misrepresentation of intentions) is generally present in exchange relationships and cannot be ignored. The risk of opportunism may be reduced by partnering with organisations with shared values which can reduce opportunism by hindering the propensity to engage in decisive actions, and enhance trust (Ghoshal and Insead, 1996). Morgan and Hunt (1994) found empirical support for such a relationship between shared values and trust, and their study lent support to the argument that opportunism is related to – but different from – trust. Their findings suggest that opportunism was significantly and negatively related to trust.

Williamson (1975, 1985) demonstrated the importance of the concept of opportunism in TCA, however, there is little empirical evidence examining how opportunism influences the dimensions of the RELQUAL construct. A study by Dahlstrom and Nygaard (1999) is one exception. They suggest that franchisers’ opportunism disrupt interpersonal trust and increase franchisees’ transaction costs. To our knowledge, the present study is one of the first that tests how opportunism relates to the nine other constructs of which RELQUAL is comprised (Lee et al., 2010b).

As discussed, opportunism is considered by transaction cost economics to reduce efficiency in a relationship, indicating that opportunism possibly relates negatively to activities stimulating relationships, and positively to the needs of governing mechanisms (Dahlstrom and Nygaard, 1995). This study takes the position of Morgan and Hunt (1994); namely: that trust and opportunism are essential in business relationships, that trust and opportunism co-exist in a relationship, that trust and opportunism are different constructs, and that it is important to include commitment and trust (p.32) in testing a measurement model of RELQUAL.

2.6 Cooperation

“Cooperation implies that one party gives up some immediate benefit in the hope of receiving a later payoff” [Palmer, (2000), p.692]. For example, two business partners will cooperate by sharing their strategic information (Christiansen et al., 2007). Cooperation also implies being truthful and commitment, and involves interdependencies between partners, which are considered to be opposite to competitive actions (Eriksson, 2008). Cooperation is an attitude and more goal-related than coordination. In other words, cooperation is a broader and more all-embracing construct than coordination; it is about the orientation of the workings of one organisation with another.

As indicated earlier, trust, commitment and cooperative orientation appear to be linked in exchange relationships. We define cooperation in the present study as “...a spirit of willingness of one organisation to work with another...” [Payan and Svensson, (2007), p.800]. Cooperation is considered essential in business relationships (Makinen et

al., 2011) and this study positions it as an important construct in testing a measurement model of RELQUAL.

2.7 *Coordination*

This study includes both cooperation and coordination as dimensions of RELQUAL, although they are not usually used in the same study. As indicated earlier, one reason may be because they are often viewed as one construct, or merely synonymous (Alter and Hage, 1993; Anderson et al., 1994b; McNeilly and Russ, 1992; Morgan and Hunt, 1994). However, some researchers indicate potential differences between cooperation and coordination based on

- 1 time-frame perspectives (Dabholkar et al., 1994)
- 2 normative versus outcome orientations (Day and Klein, 1987)
- 3 attitude/behaviour orientations (Alter and Hage, 1993; McNeilly and Russ, 1992)
- 4 goal orientations/decision rules (McNeilly and Russ, 1992).

Coordination, in contrast to the broader dimension of cooperation, is often described as a specific structure, process, or outcome between exchange organisations (McNeilly and Russ, 1992). In other words, coordination is considered to be specific joint activities (Kwon et al., 2010), which is not always caused by a spirit of cooperation. Day and Klein (1987) notes that coordination can occur without cooperation:

- 1 if coordination happened during an earlier era of goodwill
- 2 if the coordination was imposed through the exercise of power.

In other words, coordination has many other related dimensions (e.g., power) that may operate independently of cooperative orientations.

The foregoing discussion suggests that cooperation and coordination are distinct dimensions of RELQUAL. Therefore, this study supports testing both cooperation (i.e., as a working orientation) and coordination (i.e., as specific joint activities) in a measurement model of RELQUAL.

2.8 *Formalisation*

According to Homburg et al. (2002) formalisation can be viewed as an impersonal coordination mode of standard procedures and formal rules. Formalisation refers to: "...the degree to which rules prescribing behaviour are formulated, as well as the extent to which role responsibilities are prescribed..." [Scott, (1987), p.33]. This also includes to what extent the relationship between the exchange partners is regulated by explicit contracts, specified rules and standard procedures. However, there does not appear to be a consensus on how formalisation affects working relationships (Dahlstrom and Nygaard, 1995). For example, John (1984) found support for the argument that increased formalisation reduces relationship efficiency (increased opportunism). Homburg et al. (2002) noted that cross-functional managed formalisation was efficient but not necessarily the most profitable.

In another study, in a cross-cultural automobile franchiser-franchisee context, Dahlstrom and Nygaard (1995) found that formalisation enhances relationship performance in stable markets requiring routine decision making. The positive influence by formalisation on performance was found in the samples from Poland, Germany and Norway. One reason for this positive influence may be that formalisation guides and restricts the behaviour of the participants in the supply chain. Buyers and suppliers know what to expect from each other in the future.

Therefore, according to Nygaard (1992), increasing formalisation is expected to reduce the potential for suboptimal conflicts, and works as a stabilising mechanism making it easier for both parties to plan and improve goal congruity. Different forms of specified rules and standard procedures are spread throughout working business-to-business relationships, and we consider formalisation to be of (partial) value in the exploration of relationships among the different dimensions tested in the present study of RELQUAL.

2.9 Dependence

The resource dependence theory (RDT) proposes that a goal of an organisation is to minimise the dependence on other organisations for the supply of scarce resources (Jones, 2003). However, organisations will seek out buyer-seller dyad relationships to strengthen their supply position, since few firms are self-sufficient. According to Rajagopal and Rajagopal (2009), effective co-dependence might help sustain the length of exchange relationships through a higher degree of conformance to buyers' satisfaction on the services offered. This dependency does create uncertainty since the resources are not under the firm's control. Each firm within a dyad relationship contributes resources with the expectation of receiving valued returns, in some cases the primary value may be an improved competitive situation. Dependence may be associated with a buyer's lack of knowledge of alternative suppliers and/or perceived switching costs in the case of replacing a supplier (Weiss and Anderson, 1992). In this study, a buyer's dependence on a supplier refers to a buyer's need to maintain an exchange relationship with the supplier to achieve the buyer's desired goals (Bello et al., 2003; Frasier, 1983).

The importance of dependence in B2B relationships is noted in a considerable amount of research through the years (Bello et al., 2003; Emerson, 1962; Heide and John, 1988; Hewett and Bearden, 2001; Lusch and Brown, 1996). Yet the link between dependence and other elements of relational exchange is not clearly established. Hence, dependence is valued as important for inclusion in the present study of a measurement model of RELQUAL.

2.10 Specific assets

"Asset specificity relates both to physical and human assets that cannot be redeployed without valuable sacrifice if contracts are prematurely terminated" [Rese and Roemer, (2004), p.502]. Research into specific assets is rarely included with cooperation and coordination in the same study (Payan and Svensson, 2007). However, occasionally joint action (coordination) and specific assets do get included in the same study (Heide and John, 1990; Joshi and Stump, 1999). Only cooperation on specific activities was included

in one of the most comprehensive inter-organisational models in the literature, the key mediating variable (KMV) model (Morgan and Hunt, 1994).

Occasionally, coordinated activities and specific assets (in addition to 'specific investments' or 'idiosyncratic investments') are viewed similarly when specific assets or investments are interpreted as dedicated activities, and resources are employed jointly between organisations (Anderson et al., 1994). Specific assets are a key variable used in TCA models and research (Anderson, 1985, 1988; Heide and John, 1988, 1992; Heide and John, 1990; John and Weitz, 1989; Klein, 1989; Weiss and Anderson, 1992). The assets represent a high amount of specificity that has little value outside a particular exchange relationship (Rese and Roemer, 2004; Rindfleisch and Heide, 1997).

The specific assets can be classified as having:

- 1 physical locations
- 2 specific physical assets
- 3 specific dedicated assets
- 4 specific human assets.

According to Day and Klein (1987) these types of specific assets may entail the implementation of some joint activity in regard to potentially ongoing joint activities, however, human assets are considered the most important. Examples of specific human assets include:

- a services predicated on customised professional know-how and skills (Erramilli and Rao, 1993)
- b customised knowledge and working relationships built up over time (Anderson and Coughlan, 1987)
- c employees trained specifically for the product line of a particular exchange partner (Heide and John, 1988)
- d a tailored delivery routine to meet the particular needs of a buyer (Sriram et al., 1992).

Based on the above discussion, both coordination and specific assets appear to be joint activities, and may be related. However, specific assets imply a high degree of customisation between organisations, when compared to coordination, which might involve sharing different areas of a sales office. This study predicts specific assets to be distinct from coordination in terms of relationship patterns with other inter-organisational dimensions of interest in testing a measurement model of RELQUAL, and that both dimensions are predicted to be important and separate dimensions.

2.11 Summary of frame of reference

This study applies the key dimensions from Morgan and Hunt's (1994) KMV model as well as others to test a measurement model of RELQUAL in Canadian business relationships. Therefore, we consider perceived satisfaction, commitment, trust, opportunism, cooperation, coordination, continuity expectance, formalisation, dependence and specific assets to be essential dimensions in testing a measurement model of RELQUAL in B2B exchange. This frame of reference incorporates the following ten dimensions:

- 1 Continuity: refers to the duration of expectancy in a relationship.
- 2 Satisfaction refers to the positive effective state resulting from the appraisal of all the aspects of an organisation's working relationship with another.
- 3 Trust refers to the expectation that another business can be relied on to fulfil its obligations.
- 4 Commitment refers to an enduring desire to maintain a relationship.
- 5 Opportunism: refers to self-seeking behaviour with guile.
- 6 Cooperation refers to an orientation that reflects a spirit of willingness by one organisation to work with another.
- 7 Coordination refers to general joint activities that take place between organisations.
- 8 Formalisation: refers to the prescribed rules of behaviour
- 9 Dependence: refers to the buyer's need to maintain the relationship with the supplier.
- 10 Specific assets refer to the dedicated activities that are tailored for use between specific organisations.

3 Methodology

3.1 Research context and sample

In light of the need to test inter-relationships among the dimensions of RELQUAL, previously investigated dimensions of the RELQUAL construct, without associated antecedents and outcomes, were examined. The objective was to test a measurement model of RELQUAL in Canadian exchange relationships.

The sample consisted of managers and executives in small to large sized organisations (revenue of \$2 million to 153 billion) in Canada. The data were collected in 2009 in three waves, with a determined effort to maximise participation and ensure a representative list of respondents. In the first wave, recipients of the newsletter of a national association of purchasing professionals were invited to complete an online survey. The association estimates that the newsletter is received by 7,000 persons. However, organisations may have two to three recipients of the association newsletter. A second request was sent to approximately 2,700 members of a group whose members are highly likely to also be members of the national association. In the third wave of data collection, the research instrument was sent to 774 named officers of Canada's largest corporations (with 101 or 13% of these returned as the named official had left the company). This group is also likely a subset of the national association. The data were therefore collected in a cascading manner to maximise the rate of return. This data collection process yielded 165 downloaded returns, seven letters stating that the request was forwarded to the purchasing department, eight letters indicating that it was company policy not to respond to surveys and five indicating that the addressee had left the company. Fifteen of the completed questionnaires were discarded for being incomplete or as outliers. The useable 150 questionnaires were from respondents representing a broad cross section of Canadian purchasing professionals.

Slightly more than 38.7% of the 150 respondents were from privately owned firms and 45.3% were from publicly owned firms. The other respondents were employed in firms owned by suppliers, manufacturers, cooperatives etc. The number of years the organisations have worked with their current supplier ranged from one to ninety, with a mean of 13.6 years. Of the 150 respondents, 94 are males and 56 females. One hundred and eighteen (78.7%) of the respondents are university educated, ten (6.7%) reported high school as their highest level of education attained, two (1.3%) reported grade school and 20 (13.3%) identified 'other' as their highest level of education. The length of employment of the respondents with their current employers ranged from six months to thirty-seven years (mean length of service was 9.4 years) and their experience in the industry ranged from six months to thirty-eight years (mean experience was 14 years).

As recommended by Campbell (1955), the survey instrument in this study includes two items as respondent competency checks. The two items ask how much the respondent knew about their firm's perspective of the study topics and how much the respondent knew about specific experiences with the suppliers. A total of 98.8% of the respondents indicated that they had a good amount of knowledge about their organisation's perspective in regard their suppliers and 99.4% indicated that they also had a good amount of knowledge about their organisation's experiences with their suppliers. Consequently, all 150 surveys were used in the data analysis.

3.2 Measures

The sources for each construct of the RELQUAL measure used in this study were as follows:

- *Continuity* – items were adapted from Lusch and Brown (1996)
- *Satisfaction* – items were adapted from Andaleeb (1996)
- *Trust* – items were adapted from Zaheer et al. (1998)
- *Commitment* – items were adapted from Morgan and Hunt (1994) and Anderson and Weitz (1992)
- *Opportunism* – items were adapted from Dahlstrom and Nygaard (1999), John (1984) and Provan and Skinner (1989)
- *Cooperation* – items were adapted from Skinner et al. (1992)
- *Coordination* – items were adapted from Gultinan et al. (1980) and Heide and John (1990)
- *Formalisation* – items were adapted from Dahlstrom and Nygaard (1999) and John (1984)
- *Dependence* – items were borrowed and modified from Lusch and Brown (1996)
- *Specific assets* – items were adapted from Heide and John (1990).

Subjects responded to five-point Likert-type scales for all variables. The items are shown in Table 2. These scales were anchored at (5) strongly agree and (1) strongly disagree.

Table 2 Scale items

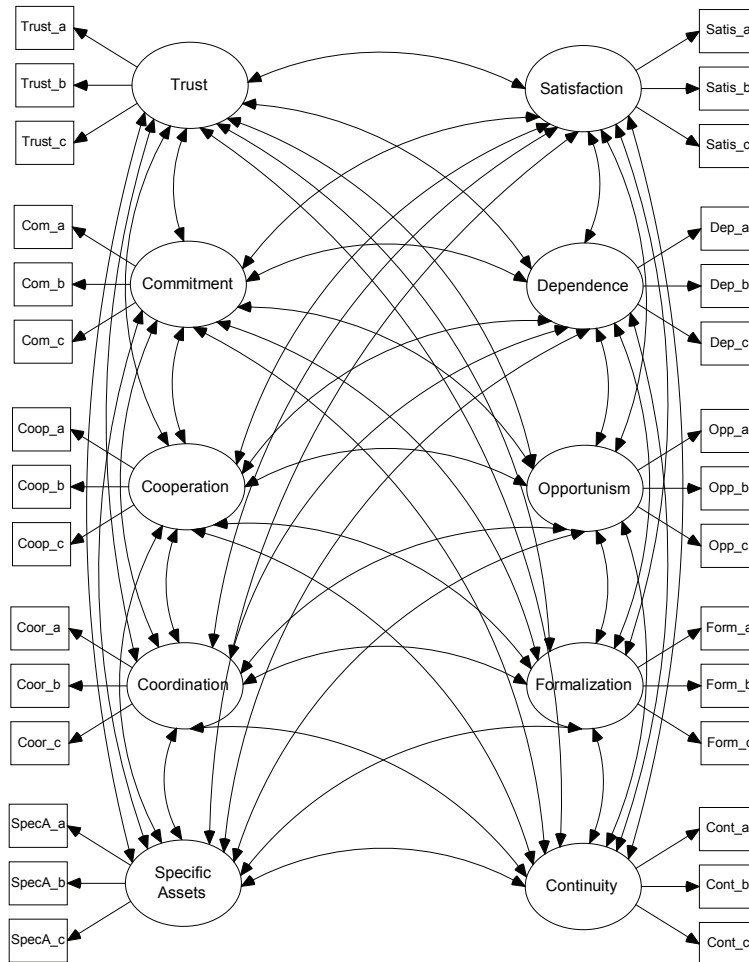
| |
|---|
| <i>Continuity</i> [Measurement scales sourced from Lusch and Brown (1996)] |
| a We expect our relationship with this supplier to continue for a long time. |
| b Our relationship with this supplier is enduring |
| c Our relationship with this supplier is an alliance that is going to last |
| <i>Satisfaction</i> [Measurement scales sourced from Andaleeb (1996)] |
| a The relationship between us and this supplier is positive. |
| b Our relationship with this supplier reflects a happy situation. |
| c The relationship between us and this supplier is satisfying. |
| <i>Trust</i> [Measurement scales sourced from Zaheer et al. (1998)] |
| a This supplier is fair in its negotiations with us |
| b We can rely on this supplier to keep promises made to us |
| c This supplier is trustworthy |
| <i>Commitment</i> [Measurement scales sourced from Morgan and Hunt (1994)] |
| a We intend to do business with this supplier well into the future |
| b We are dedicated to continuing to do business with this supplier |
| c We are resolute about future intent to do business with this supplier |
| <i>Opportunism</i> [Measurement scales sourced from Dahlstrom and Nygaard (1999)] |
| a This supplier hides important information of interest to us |
| b Sometimes, this supplier has altered the facts slightly in order to get what they need |
| c This supplier is not always truthful with us |
| <i>Cooperation</i> [Measurement scales sourced from Skinner et al. (1992)] |
| a My firm prefers to cooperate with this supplier |
| b My firm prefers to get along with this supplier. |
| c My firm's cooperation with this supplier is a priority. |
| <i>Coordination</i> [Measurement scales sourced from Guiltinan et al. (1980) and Heide and John (1990)] |
| a We work jointly with this supplier on issues that affect both firms. |
| b Our processes and/or procedures are coordinated with those of this supplier. |
| c Our activities are coordinated with the activities of this supplier. |
| <i>Formalisation</i> [Measurement scales sourced from Dahlstrom and Nygaard (1999)] |
| a There is a clear distribution of tasks between us and this supplier. |
| b In general, the information routines from this supplier are very clear. |
| c There are well-established information routines between us and this supplier. |
| <i>Dependence</i> [Measurement scales sourced from Lusch and Brown (1996)] |
| a We are dependent on this supplier |
| b This supplier would be costly to loose. |
| c We would have to use a lot of time to replace this supplier. |
| <i>Specific assets</i> [Measurement scales sourced from Heide and John (1990)] |
| a We have customised an essential share of our business in dealing with this supplier. |
| b We have tailored parts of our business to accommodate the needs of this supplier. |
| c We have aligned parts of our activities with those of this supplier. |

4 Conceptual framework testing

4.1 Goodness of fit measures – RELQUAL measurement model

Confirmatory factor analysis was run with the measurement model of RELQUAL using the SPSS/AMOS 16.0 software. Ten constructs and 30 indicator variables were used as shown in Figure 1. When the measurement model was tested the goodness-of-fit measures all were found to be well within the recommended guidelines (Hair et al., (2006), pp.745–749]. For example, the chi-square was 512.456 with 360 degrees of freedom. This chi-square was statistically significant ($p = 0.000$); maybe that was due to the sample size ($N = 150$). As a result, other fit statistics were then examined. The normed chi-square (X^2/df) was 1.423 while the IFI was 0.954, the TLI was 0.939, the CFI was 0.953, and RMSEA was 0.053 (confidence interval 90%: 0.042–0.064), all of which were well within recommended guidelines.

Figure 1 Measurement model of RELQUAL in Canadian business relationships



4.2 Assessment of construct validity and reliability

Several measures were used to assess the validity and reliability of RELQUAL (Table 3). Convergent validity is the extent to which the individual items in a construct share variance between them (Hair et al., 2006), and is measured based on the variance extracted from each construct. The variance extracted for all constructs exceeded the recommended 50% (i.e., 60 to 80%). Reliability is also considered when evaluating constructs. All constructs exhibited composite trait reliability levels that exceeded 0.7 and varied between 0.84 to 0.89 [Hair et al., (2006), p.777].

Table 3 Inter-construct correlations and summary statistics

| Construct | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 Trust | .837 | | | | | | | | | |
| 2 Commitment | .525 | .896 | | | | | | | | |
| 3 Cooperation | .401 | .564 | .818 | | | | | | | |
| 4 Coordination | .296 | .393 | .471 | .847 | | | | | | |
| 5 Specific assets | .015 | .015 | .077 | .396 | .850 | | | | | |
| 6 Satisfaction | .781 | .609 | .564 | .417 | -.088 | .896 | | | | |
| 7 Dependence | -.107 | .210 | .138 | .181 | .355 | -.073 | .841 | | | |
| 8 Opportunism | -.719 | -.491 | -.390 | -.275 | .208 | -.696 | .160 | .853 | | |
| 9 Formalisation | .489 | .279 | .400 | .339 | .081 | .536 | -.032 | -.455 | .772 | |
| 10 Continuity | .482 | .777 | .565 | .461 | .044 | .593 | .258 | -.397 | .339 | .862 |
| Variance explained | 70.0% | 80.3% | 66.7% | 71.7% | 72.3% | 80.3% | 70.7% | 72.7% | 59.6% | 74.3% |
| Composite trait reliability | 0.84 | 0.88 | 0.84 | 0.88 | 0.89 | 0.89 | 0.88 | 0.87 | 0.83 | 0.88 |

Notes: Diagonal elements are the square root of the average variance extracted (AVE) between the constructs and their measures. The off-diagonal elements are correlations between the constructs. For discriminant validity, diagonal elements should be larger than the off-diagonal elements in the same row and column [Duarte and Raposo, (2010), p.467].

Discriminant validity examines whether the constructs are measuring different concepts (Hair et al., 2006) and is assessed by comparing the square root of the AVE to the inter-construct correlations. The square root of the variance extracted should be equal to or larger than the corresponding inter-construct correlations in the same row and column [Duarte and Raposo, (2010), p.467]. This requirement was met in all cases (Table 3). The RELQUAL construct exhibited discriminant validity.

Nomological validity (lawlike validity) means the relationships between the constructs is consistent with theory (Figure 1). “Typically, the estimates used to judge the empirical aspects of nomological validity are measures of the strength of directional relationship, such as correlation coefficients” [Peter and Churchill, (1986), p.5]. The

construct relationships were significant and consistent with the conceptual model, thus confirming nomological validity of the RELQUAL construct.

In summary, the recommended guidelines for convergent, discriminant and nomological validity, as well as construct reliability, were all met. Therefore, it is concluded that the measurement properties of this RELQUAL in Canadian business relationships indicate acceptable validity and reliability.

5 Discussions

The objective of this study was to investigate the inter-relationship among important dimensions of the RELQUAL construct, as suggested in the literature, in the Canadian market. The results support the literature that these dimensions appear to be distinct yet inter-related and therefore should be considered a part of RELQUAL measurement models. In other words, this study has pieced together a number of important dimensions of RELQUAL into one study to demonstrate that they are valid and reliable dimensions.

The correlation results also suggest that the dimensions have both positive and negative impact on the RELQUAL constructs. For example, trust is considered an important aspect of B2B relationships (Walter et al., 2003). As suggested by Ha and Muthaly (2008), trust supports organisational relationships. This study suggests a positive correlation of trust with all other dimensions except dependence and opportunism, which is consistent with the literature. Alternatively, opportunism and dependence imply potential risk or uncertainty. Opportunism is negatively associated with all other dimensions except dependence, which is negatively associated with trust, satisfaction, and formalisation. The negative correlation results with opportunism were anticipated, and are consistent with the literature (Morgan and Hunt, 1994). However, the literature is not clear on how dependence would correlate with the other dimensions, since it is related to power, as well as, B2B strategies which can strengthen an organisations position in the market. This study suggests that managers moderately associate dependence with specific assets, which appears to be supported by the literature (Howard and Squire, 2007). For example, the more an organisation invests in specific assets, such as a part specific assembly line, the more dependent it is on the exchange relationship. The next strongest correlation was between dependence and continuity; an organisation dependent on a supplier would perceive both parties wanting to continue the relationship. The correlations between dependence and the other dimensions were weak.

Continuity was another item where it was not clear from the literature how it would correlate with all the RELQUAL dimensions. As expected, it was highly correlated to commitment, and negatively correlated to opportunism. Continuity was positively correlated to all other dimensions except specific assets where the correlation was weak. The moderately positive correlation to dependence appears to support Kumar et al.'s (1995a) finding that continuity is a perception that both parties intend to continue the relationship, and it appears to be a distinct dimension from commitment, as anticipated. This does not support an earlier study by Mysen and Svensson (2010) where the results suggest that commitment / continuity loaded together.

The results of this study suggest that cooperation and coordination are distinct dimensions of RELQUAL in Canadian B2B organisations. The correlations with the other dimensions in the study are positive, except opportunism, which would be expected in an existing relationship. Formalisation, considered an impersonal coordination

(Homburg et al., 2002), is a distinct dimension and appears to be positively correlated to all others except dependence and opportunism and weakly correlated to specific assets. Since the intent of formalisation is to reduce opportunism the results appear to agree with the literature (John, 1984).

Finally, 'specific assets' appears to be a distinct dimension of RELQUAL, and as predicted from the literature is moderately correlated to coordination (Anderson et al., 1994b). As indicated earlier there is a reasonable correlation with the dependence dimension. However, there is a weak correlation with the other dimensions, which suggests the need for 'specific assets' would not be a good influencer of satisfaction in a relationship.

6 Implications and conclusions

This paper has reported on a study to investigate the relationship and distinctiveness of ten RELQUAL dimensions, considered important in the literature, in Canadian business relationships. RELQUAL is an umbrella term recently used in the literature to describe the collection of first level constructs or dimensions that influence or reflect quality relationships. Some RELQUAL studies have a limited number or specific dimensions (Callarisa et al., 2007; Lages et al., 2004), whereas the ten dimensions investigated here are considered by the literature to be an important part of the RELQUAL construct. The unique addition to the literature of this study is the suggestion that when the ten dimensions are investigated together the results suggest they are distinct dimensions in the Canadian market. In contrast, according to the results of a RELQUAL study in Norway (Mysen and Svensson, 2010), commitment and continuity and cooperation and coordination were not found to be distinct dimensions.

We propose that this empirical study of 150 Canadian organisations make a contribution to RELQUAL research and B2B marketing practice in the following ways: it contributes to theory as it provides evidence that the dimensions investigated are ten distinct dimensions of RELQUAL in the Canadian business to business market and the results should be of interest to organisations evaluating efforts in building and maintaining a quality B2B relationship.

7 Limitations and suggestions for further research

The results of this study provide additional support to the literature that the ten constructs investigated should represent a part of RELQUAL; however, there are some research limitations to be stressed. The tested measurement model of RELQUAL should be tested in other inter-organisational settings to verify its validity, reliability and generalisability beyond business relationships of Canadian organisations. It would be appropriate to replicate the tested measurement model of this RELQUAL in other countries/cultures that differ from and/or are similar to the business relationship surveyed in this Canadian study. Further work in other contexts will enhance its universal application if it is to be seen as a valid and reliable way to measure other business relationships. For this purpose, Hofstede's (1983a; 1983b) dimensions of national cultures may be used to target different or similar national corporate samples. It would be of interest to see if there are similarities amongst other cultures of similar characteristics, and/or if there are similarities or

dissimilarities across other countries that are decidedly different from the Canadian results reported in this study.

Although this study tested whether the ten selected constructs were distinct and inter-related, the findings do not permit conclusions about the general application of the tested measurement model of RELQUAL across industries and countries. Therefore, we propose the following for further:

- a to perform a longitudinal approach of RELQUAL examining evolutionary aspects of it in business relationships
- b to test the measurement model of RELQUAL with the service quality constructs (SERQUAL)
- c to test the relationships between the constructs of the measurement model of RELQUAL and outcome variables such as profitability.

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